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THE TIME OF SOWING WHEAT.

ROBERT J. SWAN, Esq., whose thoroughly underdrained and beautiful farm near Geneva, N. Y., we have frequently alluded to in the *Genesee Farmer*, writes us:

"Early sown wheat looks bad owing to the ravages of the Hessian fly last fall; late sown wheat (not too late) looks excellent.

There is much in these few lines which merits the attention of our wheat growers. If we sow early, we run increased risk of injury from the Hessian fly; if we sow late, there is increased danger of damage from the midge. To hit the exact time—to strike the happy medium—requires great experience and close observation. Probably no particular date can be given that would be best at all seasons. Much must necessarily depend on the weather, the temperature of the soil, &c. On this point the remarks of Mr. SPEARING, given in another column, are worthy of consideration. He thinks that in England wheat should not be sown till the temperature of the soil is reduced to 50°. How far this remark is applicable to this country we have no means of judging. The winters in England are far less severe than in this country, and it is not so essential to sow early. Mr. SPEARING's remarks have already given rise to some discussion on this point, and the *Mark Lane Express* says:

The general opinion is that the early sown wheats commonly yield the best, and are the least affected by the changes of temperature. Before the turnip husbandry was introduced, and the wheat was sown on the bare fallow, early sowing was the rule, and one of the most important sources of profit was the feeding of sheep upon it in the autumn, which was estimated at an average value of 20s. per acre, or five sheep for four weeks per acre at one shilling per week each. And if we are to believe such writers as MILLER, and some others in the beginning and middle of the last century, the produce of those early sown wheats was at least as good as is obtained by the present system. We, of course, are not advocating a return to the ancient system of husbandry, but it is a question that will admit of much controversy, whether, where possible, it would not be desirable to get the wheat into the ground at least during the first week in September, by which it would be enabled to become well rooted to endure the winter's frosts, and, above all, to avoid the root-fall, to which later sown wheats are peculiarly liable, from the roots not having taken a sufficiently firm hold of the ground to prevent the earth from falling away and leaving them bare when the March winds succeed to the frosts of winter.

JOHN JOHNSTON, who is a neighbor of Mr. SWAN, in a communication to the *Country Gentleman*, confirms the truth of Mr. SWAN'S observations, and furnishes some interesting facts derived from his long experience. He says:

I notice there is much poor wheat around here. True, there are some fields that are good, but I fear there are more bad. I wrote you last autumn that I thought mine was ruined by the so-called Hessian fly; it is a total failure, and all owing to too early sowing. I sowed the 5th and 6th of September, and many sowed earlier. I knew better than to sow so early, as I had had failures before from early sowing. For a few years after I came here, I began sowing when my neighbors did, but as I then did the plowing and sowing myself, I was often late in finishing, and I saw the wheat I sowed from the 18th to the 25th of September was almost always the best crop. In 1831 I had quite a loss by this same fly, and then determined to get all my land ready, and not commence sowing until the 20th of September, or thereabout. I continued that course for about 20 years, and had almost no failures, with the exception of 1844. In September of 1843, as I intended going to the State Agricultural Show at Rochester, I sowed early, in order to sow my wheat before I went, and in consequence lost at least half my crop of 80 acres. Some time after the midge commenced to destroy the wheat crops along here, people got almost crazy to have their wheat early sown; some, indeed many, sowing in August; but I never began earlier than the 11th or 12th of September, and had no failures.

I have proof positive that if I had sown about the 20th of last September, I would have had fine looking wheat now. By some imperfection in the drill, it missed dropping from one spout the whole length of the field for several times; these rows I had drilled over about the 20th, or a little later.

Now *these rows are as healthy looking wheat as any man can wish to see, while the other is worthless.* If farmers will take heed to what I have written, it will do many more good than the loss of 13 acres of wheat will harm me, although I fully expected 500 bushels when I sowed it. It is folly sowing so early. I never knew one day difference in coming in ear, or of ripening, *from that sowed on the 12th or 25th of September, if the condition of the land was equal;* and I have no doubt if farmers generally will make notes of their sowing, and the ripening of the different fields, they will find what I say is correct.

Mr. JOHNSON adds "those who sow the end of September, and in October, should *sow more seed to the acre* than those sowing earlier."

So far as the Hessian fly is concerned, there can be no doubt that early sowing greatly increases the risk of injury. The fly deposits its eggs on the young leaves early in the autumn, and if the wheat is sown late, it does not make its appearance till the season of the fly is passed. But of late years the midge has proved so much more injurious than the Hessian fly, that farmers, in their laudable efforts to get the wheat into flower before the appearance of the midge flies in the summer, have forgotten the Hessian fly, and sown too early.

The subject is one of great importance, and we should be glad to hear from our experienced correspondents.

—Since writing the above we have been examining, in the *Natural History of New York*, the records of an extended observation on the temperature of the soil, by Prof. EMMONS and others in this State. The temperature of the soil was ascertained three times a day, at 4 inches and 9 inches below the surface, on grass land and on bare ground, each day for several months. We have taken the trouble to ascertain from the observations, the mean temperature of the soil for different months, at five o'clock in the morning, at 4 inches and 9 inches below the surface, and present the result in the following table:

Table showing the Temperature of the Soil at 4 and 9 inches deep, in different months of the year.

	GRASS LAND.		NAKED LAND.	
	4 in. below the surface.	9 in. below the surface.	4 in. below the surface.	9 in. below the surface.
May...	54 deg.	56 deg.		
June..	56 "	61 "	59 deg.	60 deg.
July ..	69 "	70 "	66 "	70 "
August	69 "	70 "	69 "	70 "
Sept...	60 "	62 "	60 "	62 "
Oct ...	49 "	52 "	48½ "	52 "

The mean temperature of the soil at 5 o'clock in the morning, on naked land, 9 inches below the surface, the *first week in September*, was 67¼°; the second week 63°; the third week 58°; and the last week 58°. The first week in October it was 55°; the second week 53°; the third week 52°; and the fourth week 48°.

The rule laid down by Mr. SPEARING, that wheat should not be sown until the temperature of the soil is reduced to 50°, would require that we should not sow wheat till the last week of October. This may answer in England (and we have seen there excellent wheat that was not sown till the middle of November), but such a practice would not answer in this country. It is, however, very important to ascertain at what temperature of the soil it is best to sow wheat. If any of our readers have made any observations on this point, we should be glad to hear from them.

WHERE SHALL THE FAIR BE HELD?

EVERY year in this State, and doubtless in other States, there is considerable discussion at the annual meeting of the Agricultural Society as to where the State Fair shall be held. The Managers of the Society, naturally enough, desire to hold the Fair in a populous neighborhood, where there will be a large local attendance, and where the receipts from visitors, other things being equal, will be the highest. There are comparatively few such places in this State, and if the Society decides to exclude less populous places, the Fair will return to the larger cities at very short intervals.

There has been an effort in this State for some years to induce our Agricultural Society to hold its Annual Fairs successively at three or four of the principal cities along the Central Railroad; and there are some good reasons in favor of such a course. On the other hand, it is claimed that the object of the Society should not be to hold the Fairs in places where it can secure the largest receipts, but rather where it can be of most benefit to the agricultural interests of the State; and it is urged that in sections where the Fairs are never held, the majority of farmers and their familes are deprived of the opportunity of witnessing one of our great agricultural gatherings. The Fairs, it is thought, should therefore be occasionally taken into such neighborhoods. The Society, however, is not rich, and is seldom in a position to run any risk of loss from holding the Fair in such places. We believe the Society is sincerely desirous of holding the Fairs where they will do the most good; but many things have to be taken into consideration, and it is not surprising that the decisions do not always please the friends of the Society in all sections of the State.

It is some consolation to find that we are not alone in finding it difficult always to locate the Fair in the best places. The Royal Agricultural Society of England adopts the itenerant plan of holding Fairs pursued in this State. There, as here, efforts have been made to induce the Society to permanently locate the Fairs at one or two places, but hitherto without success. Other things being equal, the Society endeavors to select places where the Fair has never before been held, or at long intervals. It appears from the last number of the London *Agricultural Gazette* that the same questions have to be considered, even in a country so densely populated as England, as arise in this State. The *Gazette* says:

"On Wednesday next the choice of the Agricultural Society will be declared, of Newcastle, Darlington and Durham, which is to be the scene of the great Country Meeting in 1864. The committee of the Council appointed to examine the localities made their examination last week, and their report will no doubt decide this matter. There is of course a natural desire that fresh ground should every year be selected, and that when two towns come into competition for a visit the new one should be chosen. Unfortunately the towns named above compete on terms which are otherwise exceedingly unequal. And the railway accommodation, the house accommodation, the accommodation for implement trials and for live stock exhibition, are all on the side of the town which has already received the annual visit of the Society. Newcastle, which was visited sixteen or seventeen years ago, has three railways from Scotland, which would, no doubt, send many competitors and many visitors; and it has also direct railway communication with the south. A show ground—the famous Town Moor, of 1400 acres—is placed at the disposal of the Society free of charge, with a railway station adjoining; and the trial ground for small implements is also close by. The population of Newcastle with Gateshead is over 100,000, and they possess many hundred hotels, inns and lodging-houses, and capital river transit, besides their railway accommodation. Darlington and Durham, either of which the Society might wish to visit, can not afford adequate lodging room for visitors, and do not provide a local population large enough to fill the yards with visitors.

"Every other year of late the Society has lost a large sum by its show. Its funds are not in a position to risk another deficit of this kind. The locality which provides the largest local population is to be preferred on this ground, even though its rivals have the powerful plea in their behalf that they have never yet received a visit from the Society."

Since the above was written we learn that it has been decided to hold the Fair at NEWCASTLE-UPON-TYNE.

SALE OF "ETHAN ALLEN."—The celebrated race-horse "Ethan Allen" has been sold to FRANK BUTLER, of San Francisco, Cal., for $16,000.

THE TEMPERATURE OF THE SOIL, AND ITS EFFECT ON CULTIVATED PLANTS.

AT the last monthly meeting of the London, or Central Farmer's Club, Mr. J. B. SPEARING, of Moulsford, Wallingford, delivered a lecture "On the Effect of Temperature on Cultivation, from Observations of the Three Past Seasons."

The science of meteorology has been profoundly studied in America. The Smithsonian Institute has for many years paid great attention to the subject; and observations in regard to the temperature of the atmosphere, rain, prevailing winds, &c., have been made and recorded in all sections of our widely extended country. But in regard to the *temperature of the soil* we have but few recorded observations. The subject has not received, either here or in Europe, the attention that its importance merits. Within the last few years the French and English horticultural journals have had considerable to say about "*Geothermal* Culture," and some remarkable results have been obtained by artificially heating the soil. In ground heated by hot water pipes, tender annuals and green-house plants have been found to flourish as well as those which were covered with glass. If the soil is warm, the sap in the plant will be warm also; and as the pores of the leaves close during cold nights, the plant can withstand considerable cold, without injury—just as the warm blood of animals enables them to resist cold.

Gardeners have long known the importance of "bottom heat," and the use of fermenting manure is well understood. An increase of one or two degrees in the temperature of the soil during the spring, is of great importance. One of the great advantages of underdraining is due to the fact that the removal of water from beneath renders the surface dryer, and the heat of the sun is absorbed by the soil, instead of being expended in evaporating the water.

Though our climate is very dissimilar from that of Great Britain, and though the exact figures are not applicable to this country, yet the following extracts from Mr. SPEARING'S address will be read with interest by all intelligent farmers. Mr. S. said:

When we look around us in the spring and admire the works of Nature, we can not but feel that all is governed by a law which is not to be calculated by time, but rather by heat or temperature; and it will be my business here to show that the more the cultivators of the soil study these laws, the less frequent will mistakes be made as to the time of planting, &c., and the more certain will be the results of their labors. If I may be allowed

to use so mechanical an expression, I will say that our trees and plants are to the earth what the temperature reaches a certain height, then vegeta- safety-valve is to the engine: when the pressure or tion opens—some at one degree of heat, some at another, but all and each in beautiful order, and in their respective places. One case in point will be sufficient to show the correctness of this assertion. Take the apple tree, which bursts into blossom when the temperature of the earth reaches 52 or 53°. Here let me remark that wherever degrees of heat or temperature are spoken of in this paper, the Fahrenheit scale is referred to. In 1860 I observed the first apple-blossom on the 7th of May, on which day the temperature of the earth was 54°. In 1862 I observed the first blossoms just ready to burst on the 4th of April, the temperature of the earth being 51½°. I believe they would have opened in a day or two had the temperature risen, but the weather suddenly changing, it gradually receded to 46° on the 17th. The blossoms were kept in this state of suspended animation for 21 days. When the temperature of the earth reached 52° on the 25th they then came out. The trees produced a moderate crop of fruit, but they were not fine, and did not keep. I believe this accounts for the crop of apples being so partial last year. In those localities where they were farther advanced on the 4th of April than mine, I think there were none (except on those blossoms in the most sheltered part of the trees); but in those districts more backward, I believe the crop to have been large and fine.

I have for some years taken trouble in ascertaining at what temperature different plants came into blossom; but I was led to keep a regular record from a simple fact, which it may not be out of place here to relate: In front of my house is a fine horse-chestnut tree, which, from yearly coming into flower several days earlier than any other in the neighborhood, and on the same level, appeared to be quite an exception to the general rule, and perplexed me much, until I accidentally discovered an old well, about 15 yards from its base. On clearing it out, for the purpose of erecting a pump, it was found to be entirely filled with small fibrous roots from the tree, to within 7 or 8 feet of the surface. These were all removed, and ever since the tree has come out later, and about the same time as others in the neighborhood, and now bears fruit, which it had never done before. The difference of 4° in the temperature of this well at 18 feet deep, and the soil at 1 foot deep, quite explains its being earlier in flower.

It is said that summers with a temperature of 63° are the most congenial to the produce of this country. In the summer of 1860 the temperature of the soil reached 64° in the Valley of the Thames. This being a very early district, our wheat ripened well, and we had a fair average crop of good quality. But I went over much land where the temperature never reached 62°; here the wheat was by no means good, either in quantity or quality. And there was a great deal of strong land, in high and cold situations, where the temperature of the soil never reached 60°; and it is needless to say that here the wheat was miserably bad, and it can not be said that it ever ripened at all, for when cut in a withered state it was still green. If, therefore, wheat will ripen at 64°, and not under 60°, I think we must all be impressed with the necessity of deep drainage on cold lands; for I have observed that where land has been thus drained, the temperature of the soil is raised 2 or 3°, and this is of the utmost importance in cold, wet seasons, besides bringing the harvest somewhat earlier. I am not prepared to say the precise maximum temperature under which our crops will flourish, but there is abundant information on the subject to satisfy us that wheat thrives better where the mean summer temperature is 10 or 12° higher than ours.

I will now remark on the crops which most affect the farmer, and speak first of the wheat plant. There seems to be great diversity of opinion as to the best or proper season of planting; many contend that on poor land it is desirable to begin sowing by new Michaelmas Day, others as early in October as possible, while only a few think November soon enough. The result of my observations is, that it it is not a question of time. I do not think it is safe to plant wheat in the autumn until the temperature of the earth is reduced to 50°, which is seldom, if ever, the case until the last week in October on warm soils, and the middle of October on cold and more backward ones. In 1860 mine was reduced to 50° on the 30th of October; in 1861, on the 31st of October, and in 1862, on the 1st of November. If wheat is sown before the temperature is sufficiently reduced, it does not remain long enough in the ground to take good root, and I have seldom seen a good crop of wheat grow from seed that came up in less than 30 days. In 1860, wheat drilled on the 26th of October came up on the 28th of November, lying 32 days in the ground, and took 1,426° of heat, at a daily average of 44°. In 1862, that which was drilled on the 30th of October came up on the 1st of December, lying 31 days in the ground, and took 1379° of heat, at a daily average of 44½°. Another disadvantage arises from sowing when the temperature is too high: weeds vegetate that could not at an earlier period, and if not impossible are certainly very difficult to eradicate. The first thing the young wheat plant has to contend with is the winter season. Under most circumstances I think we may safely say that, from its hardiness, the severity of the winter season is of but little consequence, provided the seed was sown sufficiently late so as not to become too gay or winter proud. I do not mean to say that wheat under propitious circumstances never recovers a check thus received, but I think you will all agree with me that it is desirable, if possible, to avoid subjecting it to such a test. The plant commences its growth in the spring as soon as the temperature of the soil reaches 43 or 44°. In 1860 I first perceived the wheat begin to grow on the 28th of March, when the temperature of the soil was 44°. It was 145 days to the 20 of August before it was ripe, from which we must deduct 12 days when the temperature was below 42° (when wheat can not grow or progress); this leaves 133 days for it to mature in. In 1861, I noticed the wheat begin to grow on the 24 of March, when the temperature was 43°, and it was 130 days to the 2d of August before it was ripe. The temperature was not once below 42°, so that there was no deduction to be made

from the 130 days. In 1862, the temperature of the soil reached 43° on the 11th, 12th and 13th of January. It then receded for 17 days, after which it gradually increased for five days, reaching 46° on the 4th of February. It ranged from 39 to 46° again up to the 11th of March; so that the wheat was constantly growing above ground the whole of the spring; consequently it did not take good or deep root in the soil, and was not likely to produce a heavy or even an average crop. The weather in March is of the utmost, or I may say vital, importance to the wheat plant. As the land becomes dry in March, the roots keep penetrating deeper and deeper into the soil to obtain moisture, and by so doing ample provision is made for the plant to extract that nourishment and support which is necessary for its future well-being and development. But on the contrary, if we have much wet in March, accompanied, as it generally is, by a high temperature, then the plants grow above ground, and the roots being well supplied with moisture on the surface are not induced to penetrate sufficiently into the soil so as to be able, at the required time, to draw that amount of nourishment from the land which alone can enable it to produce a heavy crop. Nor would it be able to do so if the summer afterwards should prove to be more than usually dry and propitious. The amount of rain-fall for March, 1861, was 2.06 inches; for March, 1862, was 4.29 inches; and for March, 1863, only .63 inches. The next critical period through which wheat has to pass, is from the time of its coming into ear to the time when the blossom is fully set. At this time the temperature of the air is of more importance than at any other stage of its growth. Extreme heat is not desirable, but a medium temperature, with the least possible daily range: for I have never observed red gum, rust or mildew to any extent, unless there had been a difference of from 32 to 35° between the mean maximum or heat of the day, and the mean minimum or cold at night; and it prevails to a greater or less degree, just in proportion as the range of temperature increases or diminishes. I have known wheat to vary from 49 to 70 days from the time of its coming into ear, to the time it was ready for the sickle, according to the amount of heat, as it requires from 3,000 to 3,500° to mature it. In 1860, the wheat which came into ear on the 12th of June took 69 days to ripen, and 4191° of heat, from which we must deduct 562°, for 10 days when the temperature was below 58°; this leaves 3,629° for the 59 days, at an average of 61½°. The greatest heat the soil reached this season was 64° on the 14th and 15th of July, after which time the earth gradually lost its heat. In 1861, wheat which came into ear on the 5th of June took 55 days to ripen, and 3,506° of heat, from which deduct 281° for five days when the temperature was below 58°; this leaves 3,225° for 50 days, at an average of 64½°. The greatest heat the soil reached this year was 67° on the 20th of June, and on the 13th and 14th of August. In 1862, wheat which came into ear on the 9th of June, took 3,406° of heat, and 56 days, at an average of 61°. The highest temperature of the soil was 64° on the 30th of July, where it remained for seven days. It only reached 64° once more this year, viz., on the 29th of August.

INDIAN CORN FOR FODDER IN FRANCE.

Gustavus Harmoir, President of the Agricultural College of Valenciennes, has been experimenting with Indian corn as a soiling crop. The variety used was the "Giant Maize of Caraqua." Mr. Harmoir says:

The luxurious vegetation to which this plant attains defies description. I can not recount my enthusiasm, but my wonder may be imagined when, after only a few weeks' vegetation, I saw before me stems from three to four yards high, with numberless large leaves, calling to mind, under the fogs of the north, the hot regions of the tropics.

The seed was drilled, May 31st, in rows about 3 feet apart and 18 inches in the drill. By the 20th of June the plants were over 6 feet high. He commenced cutting a portion of the crop at this time, and the yield "exceeded 6,000 kilogrammes to the *are*." This would be at the rate of over 260 tuns per acre! By the 15th of August the stalks were 14 feet high, and the yield was over 450 tuns per acre!

Mr. Harmoir further says: "For several years I have been enabled to test the eminently nutritive qualities of corn fodder, and its incontestable superiority to sorgho. The animals consume this food with avidity, and never seem to tire of it."

The Mule.—A correspondent of the *Wisconsin Farmer* sums up the merits of the mule as compared with the horse, as follows:

1. He is much more easily and cheaply raised than his cousin, the horse. 2. He eats but little more than half as much when matured. 3. He is satisfied with and thrives upon a coarser and less expensive kind of provender. 4. It costs less to keep him in harness and in shoes. 5. He is proportionately stronger. 6. He is very much tougher. 7. He is less liable to disease. 8. He has more sense and docility. 9. He is better adapted to some important kinds of work. 10. He is a true puller, and, when loaded, a quicker traveller. 11. He sells for a better price. 12. He lives more than twice as long. 13. He is better looking! [No accounting for taste.] 14. In nothing but fleetness is he excelled by the horse.

Buckwheat as an Exterminator.—The following is "going the rounds," uncredited: "Buckwheat, when sown on rich ground, will kill grass effectually. It must be sown as soon as the grass is plowed. In such case, a few crops will even exterminate quack. Buckwheat seems to be poison to other plants; and it is even known to destroy insects. It does this probably by destroying the roots of the grasses and herbs upon which they feed. No insect ever touches buckwheat in the ground."

BUILDINGS SUITABLE FOR A LARGE AND SMALL FARM.

F. M. Matteson, of Middleville, Mich., furnishes us the following article on this important subject:

What buildings are suitable for a farm, however large or small, is not a subject of minor importance. They are indispensable to the preservation and security of the products, stock, and implements of the farm, and the comfort and health of its occupants. The following are my views of buildings suitable for a large or small farm:

The first, and most important of these, is the dwelling-house: the first, because it must needs be the residence of the farmer, while all out-buildings are being erected; the most important, because the health and convenience of its occupants should be regarded first.

As it is not my province here to enter into details in giving a description of a house, I shall only advance some general ideas in regard to it.

The house may be built of such material as the owner may choose; but in all cases a cellar and stone wall should be considered indispensable. Then you have a foundation for stone, brick, wood or gravel wall. The cellar should be divided by stone or brick walls, into as many rooms as the farmer may want for milk, butter, fruit, roots, vegetables, &c. An ice-house may be so constructed in connection with a cellar, as to be of great utility in making good butter in warm weather, and storing butter, preserves, fruit, vegetables, &c. The house should be of sufficient size to accommodate a large family, with additional rooms for laborers, &c., according to the size of the farm. A farmer's dwelling should contain at least a parlor, dining or living room, cook-room, two large bed-rooms, a pantry, store-room and closet on the first floor. The walls should be high, and the three first rooms mentioned not less than 16 feet square. Such a house, when finished, with chamber room in proportion, will afford room for a large family. I would recommend building as nearly square as possible.

A wood-house should be considered indispensable in connection with a farmer's dwelling, while adjacent thereto the water-closets should be suitably arranged.

I will here leave the house and its offices, and direct your attention to the barn. The size of a barn for a large farm may be 50x86 feet; hight, 20 feet. It should be placed upon a stone wall. The main floor, 14 feet wide, dividing it in the center, leaves an equal division each side, 36x50 feet; divide each of these in the center again, and you have a bay 18x50 feet each side of the floor. In the end of one of these build a granary, 18x18 feet. 8 feet between joints. Directly under the granary may be a root-cellar. The remaining 18x50 feet at each end may be finished off for stables, as follows: 8 feet high, passage between the bay and manger; 5 feet wide, with door at each end, and door to enter cellar-way, between bay and granery; stalls 5 feet wide, including partitions.

Neat cattle should be well secured in their stalls. I would recommend a chain and strap, with buckle, for each stall. A suitable stable for calves may be arranged in any of these divisions.

There should be two or more doors to each stable, and three in each gable end—one above the main beam and two below—for the admission of hay from the outside. Doors that run upon a track at the top (railroad doors) are much better than those hung upon hinges. This barn should be built with gambol roof.

Sheds should be built with a loft for hay. I oppose anything in the form of a leanto or shed without a chamber. Build every thing in the shape of stables or sheds high. A load of hay may be dumped from the horse-fork into the gable end of such a barn as I have described with ease.

I will here describe sheds suitable for a large farm. Two buildings, each 30x30 feet, 16 feet high, and so situated that they will face each other, the inside corner of each just meeting the corner of the barn; ends, back and front above the basement closed tight; one door in each side of the loft; basement 8 feet high, with large door in the end next to the barn, open in front. These sheds will afford room and protection for a large stock of cattle.

A sheep barn may be constructed in the same way as one of the above-described sheds, except the basement, which should be divided by a partition into two equal parts. Each division will be 15x30 feet. These should be inclosed tight, except a door 10 feet wide, for the passage of the wagon or cart while hauling out the manure. These doors should be short, leaving a space at the lower end 3 feet high, for the sheep to pass under. These divisions may be supplied with cribs for feeding in bad weather. Yards may be so arranged that each division will accommodate a separate flock.

Horse Barn.—A horse and carriage barn should not be connected with other barns. A good and commodious horse barn for a large farm may be built as follows: 48x48 feet on the ground, 20 feet high. The entrance to the main floor, or carriage room, should be in the end; the floor should be 20 feet wide, directly through the center of the barn, leaving an equal division, each side, 14x48 feet. These divisions should be finished for stables, except 14 feet off the end of one of them for granery and feed-room. The stables should be 9 feet high, and divided into stalls 5 feet wide, facing the carriage room.

A trough, made of plank 1½ foot wide and 1 foot deep, placed 3 feet above the floor, will supply the place of manger and feed-box. The horse may receive his hay through a tube or box made of boards, the lower end resting on the trough, and the upper end extending through the floor above to the loft, where the hay may be thrust in and drawn out by the horse through an aperture in the side below. Stables should be well ventilated and supplied with light by means of glazed windows. Each stall should have a small door in front, above the trough, through which the horse may receive his feed from the main floor. The carriage room should be 12 feet high. There should be an aperture over the center, through which hay may be raised to the loft, and there should be a passage from the main floor to each stable. A gambol roof is preferable for this barn.

A corn barn and hog house may be constructed as follows: Size, 30x30 feet; hight, 16 feet. It may be divided in the center by a tight wall, one-

half of the basement being used for corn and the other for a hog house. The corn house should have a solid plank floor, and a 10-feet door to drive in with a wagon. It should be 9 feet high, with a crib against the outside wall 30 feet long. There should be a flight of stairs in the end opposite the large door leading to the chamber above. This chamber should have a tight floor, with an aperture in the center, through which grain or other heavy substances may be raised to the loft. A trap-door to close it will make all tight. This chamber may be used for a granary or store-room, and should be supplied with bins for that purpose. The hog house should be made into three divisions, viz.: a passage 3 feet wide along the side next the corn house, with a door at each end and one in the middle communicating with the corn house. There should be a feeding room in one end of the remaining division 20 feet long, and a sleeping room in the remaining 10 feet. The basement of the hog house may be 6½ feet high. The chamber over the hog house may be used for a store room for farming tools and implements.

A hen house may be large or small, according to the amount of poultry the farmer wishes to keep. It should have a tight floor, and be furnished with poles for roosts and boxes for nests; should have a door to enter it, and a small slide-door for the hens, to the exclusion of vermin when closed.

A smoke-house should be of stone, brick or gravel wall, 10x10 feet and 9 feet high. The roof or door should be lined with sheet-iron or zinc. "There should be an arch in the side, near the ground, where the fire may be kindled from the outside, the smoke being ushered in through a flue from the arch."

Isolated barns for the storage of hay may occupy such locations as are most desirable.

BUILDINGS FOR A SMALL FARM.—The house we will pass by, as its limits, as described above, are always confined to the wants of the family. The barn may be of the same size as above. The floor, bay and stable, across one end, the same. The basement of the division at the opposite end may be divided by a partition through the middle, leaving two equal divisions, each 18x25 feet. One of these may be open on one side for a shed for neat cattle; the other may be finished for sheep. We now have a barn, stable, shed and sheep barn, all in one complete body, and under one roof. If still less room is needed, leave off that division now occupied for a stable, and make the stable in the bay that has the grauery in one end. Your barn will then be 50x68 feet.

The horse barn may be lessened in size by leaving off the stable, and 4 feet on one side; also, 14 feet off of one end, leaving the barn 30x34 feet.

The corn and hog houses may also be lessened in isze to suit the wants of the farmer.

WEEDS.—Allow no weeds to mature on your cultivated lands; destroy them thoroughly, for one weed will be sufficient for the perpetuation of its kind, and will foul a greater extent of surface than can be cleansed effectually in a year. Most weeds make good articles in the compost heap, and when used for this purpose may be made to pay the cost of gathering them from the fields and preparing them for manure.

CHINESE AGRICULTURE.

THE REV. CARL VOGEL, a returned missionary from China, furnishes the *Valley Farmer* an interesting article on the agriculture of the country. We make a few extracts:

The climate of China is much like our own, of the same latitude. It has the same kind of rains. Their land being more mountainous was perhaps originally not so fertile as ours. But they, having on an area of about three-quarters of the United States to sustain a population variously estimated between three and four hundred millions, can not afford to destroy the fertility of their soil, they were bound by necessity to retain and even increase it, and they did it. "For unto every one that hath, shall be given, and he shall have abundance, but from him that hath not, shall be taken away even that which he has." With them nobody tries to cultivate more land than he can cultivate well; there is very little temptation to do it, for there are not many great land owners, as with us. Besides cultivating their land well, they likewise give it its full share of manure. All that has been taken from the land returns as much as possible back to it again in one form or the other. The excrements of men and animals, old leather, hair, horn and bones, etc., are all carefully preserved and brought back upon their farms. We know that in all European countries they manure their lands with more or less care, but in all a great part of the most powerful manure is wasted; nowhere but in China, and perhaps Japan, are they so careful not to waste what may serve to fertilize their fields, and in no other country bear the fields so enormous crops. Their land is as with us, to a great extent level, but where it is undulating and hilly, they have made it level by means of terraces. It is intersected in every direction by ditches and canals, which can be well regulated by means of sluices, and are useful to drain the land when there is abundance of water, and to irrigate it in times of drouth. And above all, they love their farms much more than we do—they do not sell their homesteads to every one who offers a few dollars' profit. On a certain time every year do the children of one family assemble under the paternal roof and on the graves of their parents. They have often asked the Christian missionaries how they could have left their homes and the grates of their parents? To do such a thing, they regard as a want of filial piety. With them bountiful earth is a kind mother, and therefore to abuse it would be not less mean than for a son to treat ill his own mother. And to destroy its fertility is with them a crime without name, a sacrilege not less than parricide.

I have read in some description of Japan, that there they have a law, according to which the land of every one is confiscated who does not improve it; and that for every tree cut down, at least one useful tree must be planted again. If our legislators would make a similar law, and enforce it, I think it might do some good.

AGRICULTURE IS HONORABLE.

The Chinese honor agriculture. The Emperor himself cultivates the soil. The Son of Heaven (as they call their Emperor), he whom they honor

with almost religous worship, whom nobody approaches but on his knees, is bound by law and custom to cultivate every spring a certain piece of ground, while all the dignitaries of his court are present in their splendid robes of ceremony to assist him. The like ceremony is performed at the same time by the governors of the different provinces near their respective capital cities. And when embassadors come to court from the different parts of the empire, the Emperor will question them regarding the state of the different crops. It is a duty of the governors to report annually what men of their provinces are the best farmers (that means according to their idea of a perfect agriculturist), who are distinguished not only by the most careful cultivation of their farms, but also by their good reputation among their neighbors, by their industry, frugality and economy. And the men so recommended are elevated by the Emperor to a certain rank, which gives them many privileges, and which may perhaps be compared with that of the French Chevalier of the Legion of Honor.

AGRICULTURAL IMPLEMENTS.

The agricultural tools of the Chinese are very simple. They have a plow of very primitive construction. But as nearly all their land is worked by hand, they use more the spade, hoe and rake. They have not so much use for labor-saving machines as we have, for their farms are small and the hire of a farm hand is very low. But with their simple tools they keep their farms well in order; indeed, their farms, being so nice and well cultivated, might be properly called gardens. The only kind of tools resembling our machines are their oftenly very ingeniously constructed, but always very simple instruments for irrigation of their fields. They have different kinds of pumps in common with us, or perhaps all kinds in use in this country, even many kinds of chain pumps (that are patented in America as the invention of some Yankee) not excepted. As with us, they use often some lever, with a bucket at one end (a swipe), to raise the water out of wells or rivers. Or they have water-wheels, which being set in motion by the current, draw, by means of small vessels fixed to their periphery, the water to some gutter, in which it runs directly to the fields or to canals which often on long ways bring it to distant hillsides at some place down the river. So they have made their land very productive. In some parts south it bears crops without hardly any interruption, and has done so for hundreds and thousands of years without any detriment to its productiveness. Indeed they have to work much, but everything brought into account, not more than we. For it takes more work to raise a crop on a surface of eighty acres, than good cultivation would well grow on eight. And if we bring into account our trouble in procuring new lands, after we have worked for some years and destroyed the fertility of our old ones, if we consider our better tools and labor-saving machines, we do more work and with less profit than they do. With them it is true, as we say,

Little farm well tilled,
Little barn well filled.

GARDEN VEGETABLES.

Their farms being more like gardens, the garden vegetables are with them most extensively raised. Every European or American who has lived in countries where Chinese emigrants abound, that being especially the countries and islands of Further India and Austral Asia, know well how they supply the markets with every kind of garden vegetables, and how great is the abundance and diversity of them. And if an exhibition or something like our fairs could be inaugurated at Canton or other similar places, it is my opinion the Chinese would greatly excel us. We have no names for all their garden products, but they have at least nearly all those which are raised by us. They have turnips, carrots, asparagus, yams, potatoes, sweet potatoes, cabbage, pine apples, or bananas; they have beans, peas, onions, melons, squashes, cucumbers, gourds, and a great variety of kinds of each. Besides there is great diversity of fruits, not only those in common with us, but also many kinds of oranges and apples (which as their name says originally came from that country to the southern parts of Europe and America), granate-apples, lichys, figs, olives, bananas, cocoanuts. Among their other trees the following are important: The cassia tree, that gives a kind of cinnamon, the tea-shrub, the camphor tree, from the wood of which by distillation the camphor is produced. The wood of this tree resembles, when worked into furniture, somewhat that of our black walnut, and boxes and chests made from it are extensively used and exported, for keeping woolen clothes in; for moths and other insects which do not like the smell of camphor will never enter them. They have a tallow tree, the fruits of which are covered with a mass resembling and used as the tallow of the ruminating animals; and a wax tree that produces some kind of wax resembling bees wax. There are several kinds of trees, that partly are poisonous, and produce the lac and varnish by which their furniture excels every other, except that made by the Japanese. The mulberry tree gives, in its leaves, the food for the silkworm.

FARM CROPS.

Other products of their fields and gardens are tobacco and hemp, for smoking; the leaves and seeds of the latter are mixed with tobacco to augment its narcotic qualities. For fibre they raise, besides hemp, also flax and urtica nivea—a plant from the fibres of which grass cloth, the best kind of linen known, is made—and cotton. They have a kind of cotton with yellow fibre, from which the cloth called with us Nankeen is manufactured. The other cotton goods, if dyed at all, have mostly a blue color, the indigo for which is generally raised by the cotton grower himself. A very useful plant of much influence in Chinese society, is the bamboo. They can make from it mats, sails, and can build out of materials made from it, in a short time, whole houses; and they make every kind of household furniture from it, tables and chairs, bedsteads and sofas, carpets, boxes and chests; besides fans, umbrellas, buckets, pipe stems, etc. Teachers use it in schools, and magistrates for enforcing the laws.

The cereals differ according to climate. In the southern parts they raise mostly rice. Besides that, they have several kinds of holcus, rye, American corn, buckwheat, several kinds of millet, and

that plant not long ago introduced into this country under the name of Sorgho. (The word is certainly not Chinese—they could not even pronounce it.) In China this plant is called Kan Che. They manufacture all their sugar from it, and even export some. They use ox mills, with two vertical cylinders made from hard wood or stone, and let the sap immediately from the mill by means of wooden tubes run into large iron kettles of the common spheric form, which are built into stone or brick furnaces. Though our mills are similarly constructed, and, if made from iron, perhaps better, and though it seems to me that some of our evaporators are an improvement, yet we are not able, extensively, to granulate its sap into sugar. We know that their apparatus is very simple, and yet, as in many other things, they beat us, notwithstanding our more perfect tools and apparatus.

DOMESTIC ANIMALS.

As regards domestic animals, there are too many men in China that want to be fed, to have much food left for animals. Horses in China proper are very scarce. If they yoke animals to the plow, it is in most cases the ox or the cow. They do not keep milch cows, at least not in the south, where I have been. In that part they use as working cattle the East Indian buffalo or water ox, which is very different from what we call buffaloes. He is called water ox by the Chinese, because like the hog he lies down in the water when the weather is hot, and is often with his whole body under it, while only his nose and eyes are above the surface. Besides they have a peculiar breed of small black hogs, which fatten very easily, and give a very palatable meat. These and dogs and cats, the flesh of which is eaten, are the only quadrupeds raised by them extensively for food. To kill a cow or an ox they dislike nearly as much as the people of Hindostan, and all, though they eat dogs and cats, rats and mice, think it as much disgusting to eat beef, as we do horseflesh.

They have many kinds of poultry. Our famous Shanghi fowls came from the place of that name, and its neighborhood in China. Like the old Egyptians they artificially hatch the eggs of hens and ducks. Both of them are raised and consumed in enormous quantities. On holidays, which they celebrate every full moon and new moon, corresponding somewhat with our Sunday (though nobody is bound by law to abstain from work), the poorest families kill and eat some kind of poultry.

Thus at least in China that famous desire of good king Henrie Quatre is fulfilled to the letter.

LICE ON CATTLE. — A correspondent of the *Boston Cultivator* recommends the use of sand both as a preventive and cure for lice on cattle. Haul into the barn a few loads of loam or fine sand and spread it under the stock during the winter. If any of the creatures are lousy when coming to the barn in the autumn, throw some of the sand or loam upon them; it fills the hair and causes the lice to roll off, but does not kill the nits; the application must be repeated two or three times a week until every generation is exterminated. Bulls are noted for their freedom from lice, and it is probably owing to their habit of pawing up earth and throwing it over their bodies.

MORE ABOUT BONES.

A CORRESPONDENT sends us the following query:

DR. EVAN PUGH, as reported in a late number of the *Farmer*, says "bones by burning lose about *four* per cent. of their nitrogen." STOCKHARDT says "the organic substance of bones, the gelatine (which contains a great abundance of nitrogen, and is 33 per cent.) is *lost by burning*." Here is wide, and to us farmers a very material difference of opinion. If the forcing power which bone-dust exercises is owing to the gelatine, which, according to STOCKHARDT, is lost by burning, then Dr. PUGH is disseminating a fatal error. Will you please to tell us who is right?

We suppose they are both right. This may seem paradoxical to some, but by way of explanation, it must be considered that the chemical analysis of bones, as it regards the animal matter, is only an *approximation* to the truth. The mineral parts of bones are more uniform in their component amounts, but the animal, or organized parts, vary exceedingly. Hence the varying results which are given by different chemists. If you should take the bones of a healthy and very fat ox for instance, you would find them full of "marrow and fatness." You would find the marrow and other portions rich in oil, fat or carbonaceous matter. You would find the glue or gelatinous portion full of its peculiar matter. You would also find the phosphate of lime, and the carbonate of lime presenting their full complements of ingredients. The animal parts would, in all probability, give you, as we stated in our last, 50 or 51 parts in the hundred, or at least half the weight of the bone. Now, if that same ox had been starved, or had become emaciated by some slow and wasting disease, until it had died of exhaustion, and you should take its bones and analyse them, think you they would give you the full proportions mentioned before of animal matter? Certainly not. Well, we have bones of all grades, from those full of marrow to those with no marrow at all. One chemist will take a bone fresh from the animal to which it belonged, and analyze it. No doubt he will give you the exact proportion of ingredients he finds in it. But that can only be reliable for the bones of that particular animal, that individual. To-morrow, he takes bones from another animal which appeared to the eye full as fat and fleshy as the other. He will use the same care and skill in the analysis as in the first case, and yet obtain quite a different result. Hence, as we said before, these chemical examinations are merely approximations. It is only by analyzing a great many different specimens, and taking the average, that the approximation can come near to a positive result.

Any farmer can demonstrate the truth of these remarks on or in his own soil. Let him take a quantity of fresh bones from a fat animal just slaughtered, and grind them to powder. Then let him take the same quantity of bones picked up promiscuously from the fields and bye places, where they have been fed upon by insects and withered more or less by exposure. Let him grind these to powder also. Then let him spread equal quantities of each on an equal area of grass land, of like quality, and side by side. He will soon see the difference in the strength and value of each portion.

Nitrogen, which Dr. PUGH and STOCKHARDT speak of, is the gas derived from the decomposition of a part of the animal matter found in bones,

and which combining with hydrogen (also liberated by decomposition) forms ammonia, which ammonia becomes absorbed by the soil or dissolved by rains, and thus becomes useful as a food to plants. The other part is carbon, also useful to vegetable life. In some bones it will be as PUGH says, four per cent., (which is probably the minimum) and in others, as STOCKHARDT says, is 33 per cent. (which is probably the maximum.) But whether four per cent. or thirty-three per cent., they are all destroyed, or rather driven off, by burning, and little except the mineral part of bones is left. The farmer must, therefore, remember that by burning bones he loses all the animal matter they contain, whether it be more or whether it be less. He should also remember that the fresher and more recently the bones are from the animal, when crushed, the richer and more powerful the dressing; and also the fatter and more healthy the animal from which the bones are taken, the richer and more powerful they will be as a fertilizer. Thus, health and fatness pervade the animal to its very bones and add to its value and usefulness in its very ultimates.—*Maine Farmer.*

REMARKS.—There is no real discrepancy between the above statements of Dr. PUGH and Prof. STOCKHARDT.

The correspondent of the *Farmer* mistakes the meaning of Prof. STOCKHARDT'S statement in regard to the amount of nitrogen in bones. The sentence, as quoted, is rather ambiguous, but the meaning is this: Bones contain 33 per cent. of gelatine. This gelatine contains a great abundance of nitrogen (17 per cent.). When the bones are burnt, the gelatine is destroyed and the nitrogen is lost.

In burning a quantity of bones how much nitrogen is lost? Dr. EVAN PUGH says *four* per cent.; STOCKHARDT says we lose 33 per cent. of gelatine. Now, as gelatine contains 17 per cent of nitrogen, we should lose between 5 and 6 per cent. of nitrogen. In his *Chemical Field Lectures* STOCKHARDT states that bones contain 5 per cent. of nitrogen. The difference is not very great. Dr. PUGH is doubtless nearest the truth, so far as ordinary commercial bones are concerned. But the correspondent of the *Maine Farmer* evidently supposes STOCKHARDT to mean that bones contain 33 per cent. of nitrogen. This is a mistake. He means that bones contain 33 per cent. of gelatine, a substance "that contains a great abundance of nitrogen."

Some years ago a Boston chemist analyzed a sample of the so-called Chilian guano, and reported that it contained "organic matter yielding ammonia, 20 per cent." Farmers who saw this analysis very naturally supposed that the guano contained 20 per cent. of ammonia. But a sample of it analyzed by the writer of this was found to contain only 1 per cent. of ammonia. Now, was there any discrepancy between the two analyses? Not at all. It is a different way of stating the results of the examination. The guano did contain 20 per cent. of organic matter, and this organic matter would, by decomposition, "yield ammonia." And this was all that the Boston chemist stated, though the phraseology might have been intended to deceive.

We make these remarks in the hope of enabling our readers to understand these matters more clearly. It is important to understand the real significance of a chemical analysis. Four per cent. of nitrogen and 33 per cent. of gelatine is (nearly) one and the same thing.

GRUBS ON CATTLE.

FRIEND HARRIS: In your May number of the *Genesee Farmer* J. E. PIERSON asks, "What is the cause and what is the cure of grubs in the backs of cattle?" and says his young cattle are very much infected and very poor in consequence.

Warbles, or grubs, in the backs of cattle are the larvæ of the gad-fly (the *Oestrus bovis* of the entomologists). The fly, in July and August, alights on the back of the cow, punctures the skin and deposits its eggs. In a short time the grub is hatched, and eventually worms its way through the hide, where it remains, feeding and growing through the winter. In the spring it has attained its growth, and escapes through a round hole in the hide. It then burrows in the earth, changes to a perfect or winged insect, and then emerges, takes wing and pursues the course of its parent—that is, attacks the cattle for the purpose of continuing its species, in accordance with those natural laws designed for the perpetuity and annual reproduction of the genus, gad-fly. Sometimes as many as one hundred of these grubs are found beneath the skin of a single animal—each boring its own passage through the skin. During the time the grubs are under the hide, the animal, no doubt, suffers much pain, and sometimes become "very poor in consequence."

I know of no way in which the fly can be kept from depositing its eggs in the backs of our cattle, I do not suppose that the puncture made by the fly, in which to deposit eggs, causes the animal so much pain as the prick of a pin would; yet, when a single gad-fly attacks a herd of cattle, it seems to cause a most alarming, instinctive fright. "The cattle will stick up their tails and run as though possessed," enacting a real *Bull* Run stampede.

In the spring the grub can sometimes be pressed out and destroyed. All such will, of course, deposit no eggs in the backs of old or young cattle. "It has been said that strong brine will destroy the grubs in any stage," but I very much doubt the correctness of the saying. It is truly wonderful how many ways have been brought into requisition to keep up and continue the various species and tribes of insects, and what transformations they undergo, from the time the egg is deposited to the final and full appearance of the perfect insect. Many of these "changes are very similar to what it would be for a serpent to become a clam or oyster, and this clam to subsequently change into a bird." To those of studious and inquisitive minds,

the study of the natural history of insects is full of interest, in a scientific point of view. But a correct knowledge of the natural history of the various tribes of insects, both of those benificial and injurious to the labors and crops of the husbandman, possesses a two fold value—a scientific and a pecuniary value.

The above being facts, it behooves farmers, especially the younger portion of them, to make themselves familiar with the science of entomology. Books and publications on insects are now within the reach of all, and the farmer should strive to learn which among the various families of insects are his friends, and which his enemies.

May, 1863. LEVI BARTLETT.

CANADA THISTLES IN MICHIGAN.

The State Legislature of Michigan at its late session passed the following law "to prevent the spreading of Canada thistles in the State of Michigan:"

Section 1. *The People of the State of Michigan enact*, That it shall be the duty of every owner, possessor, or occupier of land, to cut or cause to be cut down, all the Canada thistles growing thereon, or in the highway passing by or through the same so often in each and every year as shall be sufficient to prevent them from going to seed; and if any owner, possessor, or occupier of land shall knowingly suffer any such Canada thistles to grow thereon, and the seed to ripen, so as to cause or endanger the spread thereof, he shall on conviction be liable to a fine of ten dollars for every such offence.

Sec. 2. It shall be the duty of the overseers or commissioners of highways in any township, to see that the provisions of this act are carried out within their respective highway districts; and they shall give notice to the owner, possessor, or occupier of any land within said district, whereon Canada thistles shall be growing and in danger of going to seed, requiring him to cause the same to be cut down within five days from the service of such notice; and in case such owner, possessor or occupier shall refuse or neglect to cut down said Canada thistles, the overseer or commissioner of highways shall enter upon the land, and cause all such Canada thistles to be cut down, with as little damage to growing crops as may be; and he shall not be liable to be sued in action of trespass therefor: *Provided*, That where such Canada thistles shall be growing upon non-resident lands, it shall be necessary to give notice before proceeding to cut down the same.

Sec. 3. Each overseer or commissioner of highways shall keep an accurate account of the expense incurred by him in carrying out the provisions of the preceeding section of this act, with respect to each parcel of land entered upon therefor, and shall offer a statement of such expense, describing by its legal description, the land entered upon, and verified by oath to the owner, possessor, or occupier of such resident lands, requiring him to pay the amount. In case such owner, possessor, or occupier shall refuse or neglect to pay the same within thirty days after such application, said claim shall be presented to the township board of the township in which such expense was incurred, and said township board is hereby authorized and required to audit and allow such claim, and order the same to be paid from the fund for general township purposes of said township, out of any moneys in the township treasury not otherwise appropriated. The said overseer or commissioner of highways shall also present to the said township board a similar statement of the expense incurred by him in carrying out the provisions of said section, upon any non-resident land; and the said township board is hereby authorized and empowered to audit and allow the same in like manner.

Sec. 4. The supervisor of the township shall cause all such expenditures as have been so paid from the township treasury, under the provisions of this act, to be severally levied on the lands so described in the statements of the overseers or commissioners of highways, and to be collected in the same manner as delinquent highway taxes are collected; and the same, when collected, shall be paid into the township treasury, to reimburse the outlay therefrom aforesaid.

Sec. 5. Any person who shall, knowingly, vend any grass or other seed, among which there is any seed of the Canada thistle, shall, for every such offence, upon conviction, be liable to a fine of twenty dollars.

Sec. 6. It shall be the duty of the prosecuting attorney of the county, to prosecute all violations of the provisions of this act, which shall come to his knowledge.

NOTES FOR THE MONTH BY S. W.—MAY.

It was gratifying to learn from the "leader" in the last number of the *Farmer* that the true cause of the potato rot had been discovered, and is now finally designated in botanical nomenclature as the *Peronospora infestans*. After all that has been said and written, and so many theories started only to be again exploded, it seems that those painstaking, patient investigators, the German botanists, have proved beyond a shadow of a doubt that the true and only cause of the potato rot is a fungus or parasite on the leaves, which first devours the leaves to support itself, leaving its dark brown spores to be washed down by a warm shower to infect the tubers in the hill. You have truly said "that this fungus is not a spontaneous production, but that it is produced from seed, or propagated from the diseased plant itself, and that, although the seeds are invisible to the naked eye, they are nevertheless real." As you say, the true remedy is to plant no tubers that have ever been in contact with the diseased ones—to grow potatoes for seed by themselves on a clean soil, and to remove the leaves if attacked before the fungus has ripened its spores, or at least before the rain has washed them into the hill.

THE FEEDING VALUE OF STRAW AND CORN STALKS.

Your article on the feeding value of straw is very interesting. Our great equine stock-grower, Wright, feeds more corn stalks than straw. He chaffs them, butts and all, very fine by horse power, treating them then with scalding water and Indian meal. He thinks that there is much more starch and sugar in stalks than in straw, and that its cellulose is more readily digested. He leaves

his stalks in large double stacks in the field, drawing them in as they are fed out during the winter. He sows dent corn in drills for soiling and for early winter fodder; but it is so full of juices that the curing is very difficult. It can rarely be made dry enough to keep from souring and mold, unless it is very thinly distributed on racks in the mough. But every farmer in our warm dry climate should grow a small highly-manured patch of corn for soiling and keeping up the milk of his cows during the late summer and dry autumn months.

AMERICAN CHEESE IN ENGLAND.

Every dairyman and woman should read the article in the May number of the *Farmer* under the above heading. It seems that American cheese is invariably sold in England at from three to four cents a pound lower than English cheese. Thus it appears that the English cheese-makers can not afford to keep cows to make poor, slovenly cheese. What a loss to American cheese-makers on the fifty-two million pounds of cheese exported from this country to England the last year! and all for the want of skill and management.

We had a backward spring until the first of May, since which the mercury has hardly fallen to the freezing point a single night. A larger breadth of wheat is growing now in little Seneca than has gladdened the eye before since the first years of the midge. Some fields look well, but on others the wheat is thin and yellow. The late much-needed rain, however, has benefitted all. Garden corn, planted on the 1st of May, is now up and ready to hoe. We rarely have a frost along this warm lake outlet severe enough to kill corn planted on the 1st May, and it never rots in a warm drained soil; but beans and cucumbers are not safe until after the 1st June, should a white frost occur; yet it well pays to cover for a night or two a row of beans for early eating.

PEAS AS FOOD.

A bushel of peas contains much more strength-giving nutriment, nitrogen, than a bushel of Indian corn; but as the corn contains more available carbon it is more fat-forming. It is also better relished by hogs, poultry, &c. But as peas, like oats, are more strengthening than fat-forming, why would not peas ground with Indian corn form a much better and cheaper food for working animals than oats? There is one advantage in feeding peas which many farmers have not yet taken into the account of profit and loss: the manure from peas is worth much more, if not double of that made from Indian corn.

Waterloo, N. Y., May 16, 1868.

To Keep Butter Cool without a Cellar.—A correspondent of the *Boston Cultivator* says: "Cover the bottom of a large jar with coarse salt. Put the butter in a bag, place it in the jar and cover it with coarse salt; place the jar in a north room, and the salt will keep the butter nearly as cool, through the summer, as a common cellar."

The *Irish Farmers' Gazette* says the scarcity of young stock is causing considerable apprehension in that country. Not only is there a scarcity caused by disease, but there is also a serious falling off in the number annually raised.

BEST TEAMS FOR FARM PURPOSES.

At a late meeting of the Greenfield (Mass.) Club, the question for discussion was: "What kind of a team is the most economical for the farmer to use?"

The opinion of those present, according to the Greenfield *Gazette*, generally seemed to be that if a farmer kept but one team, that an ox team was decidedly the most economical, for the following reasons:

1st. It would not cost near as much at the outset to purchase cattle as horses, nor as much to get yokes and carts as harnesses and wagons.

2d. Young, thrifty cattle would increase in value from twenty-five to fifty dollars per yoke, annually, while horses would remain about the same in value.

3d. Horses are more liable to meet with accidents, and many injuries that would render the horse worthless would prove but a slight damage to the ox or loss to the owner.

4th. There are many kinds of work in many places that can be performed to better advantage with cattle than horses.

But all were not in favor of cattle. Several gentlemen present preferred a horse team because they could do more work in a given time, with about the same expense for feed.

They also stated that one horse must be kept on every farm, and that it was cheaper to furnish one extra horse and make a team of the two, than to keep one horse and a yoke of cattle. One man even suggested that mules would be preferable to any other animals for a team. Nearly all thought that if two teams were necessary on a farm, one must be of horses and the other of cattle.

CHEAP FIELD FENCE.

Eds. Genesee Farmer: A good and sufficient field fence can be made with fifteen inches in width of boards, or fifty rods of fence to the thousand feet of boards. Set the posts, and nail the first board nine inches from the ground; then make the spaces five, six, seven and ten inches, five boards three inches each in fifteen inches; now turn a furrow six inches deep toward the fence on each side. This brings the earth within three inches of the bottom board, and adds six inches to the hight of the fence, measuring from the bottom of the furrow, and the ditch or bank make it very unhandy for animals to get at the fence. This makes a fence four feet ten inches high.

I have several hundred rods of such fence. The first was built five years ago. It has proved perfectly safe and sufficient against cattle that were unruly. It is not racked by the wind like a fence of wider boards. Fourteen-feet boards, with one post in the middle, take a less number of posts, and make as good fence as twelves. I have used white oak board at about twelve dollars per thousand, and swamp oak split posts at four cents each.

Jackson, Mich. S. SHARPE.

HORSES.

The N. H. *Journal of Agriculture* says buying and selling horses has been lively in that section the past two months, some at tall figures. Mr. Eaton, the conductor, sold a pair in March, to go to New York, for $700. Mr. Taggart sold his "Nat Baker" for $2,000. Dr. Geo. A. Crosby sold his roan for $350. S. L. Fogg sold Burgess' pair of black horses for $1,000. Frank W. Nichols sold the Smith horse, that came from Cohoes, N. Y., to a gentleman in Providence for $900. These are the high priced ones.

Common horses remain quite cheap, but nice, gentlemen's horses, good roadsters, speedy, stylish and of good size, bring large prices. Notwithstanding the drain of horses for the army, they are still plenty. We saw 2,000 horses at Bull's Head, four weeks ago, for sale, and common horses can be bought very cheap in New York. There is a great demand for family horses, intelligent, afraid of nothing, that will stand without tying. A store wagon, baker's cart or something of that sort is a good place for training such a horse. The old-fashioned way of breaking a horse to a plow, and getting him used to having traces dangling at his heels, should not be dispensed with. If more were broken so we should not have so many runaways—horses frightened out of their wits when the rigging gives out. Horses are trained easily, taught to come and go at your word, and to obey you. They are almost as tractable as a dog, and soon, under kind management, come to love to learn.

ABOUT CLOVES AND ALLSPICE.

Cloves are produced by a tree which is a native of the Mulucca Islands, and were like nutmegs a long time ago under the control of the Dutch Government, who for many years would not allow the trees to grow upon any except the island of Amboyna, from which the highest priced cloves still come. The tree is from 15 to 30 feet high, with large aromatic leaves, and bunches of very fragrant flowers. The spice is the unopened flower buds, which are beaten off by means of rods, and then dried. The little ball at the top of the clove is the unexpanded petals; by softening the clove in hot water, these can be carefully laid open by means of a pin. The main portion of the clove is what would be the fruit were it allowed to go on and ripen. Our word clove comes from the French, *clou*, a nail—that being the name by which the French call them on account of their resemblance to a little nail. They contain a good deal of volatile oil, upon which their value depends. This oil is sometimes extracted in part, and the cloves afterwards sold. These can be told by their lighter color, and by having the buttons or rounded portion broken off. Cloves readily absorb a considerable amount of moisture, and it is the custom of large dealers to keep them in a rather damp place, in order to make them weigh heavily, and look fresh and plump. It is bad economy to buy cloves or any other spice in the ground state, as, aside from the risk of adulteration, the oil is absorbed by the paper in which they are put up.

Allspice is from a tree, nearly related to the clove tree; it grows in the West Indies, where it is largely cultivated for the spice, which in this instance is the fruit. The berries are gathered when green, for if allowed to remain on the tree until ripe they have an unpleasant flavor. It is also called Pimento, and Jamaica pepper. The name allspice was given because it was thought to have the flavor of cloves, cinnamon and nutmegs combined.

WEATHER HINTS FOR FARMERS.

The following extracts from an English work, *Admiral Fitzroy's Manual of Practical Meteorology*, may induce some of our weather-wise readers to give us some hints on the same subject, applicable to this climate.

Weather, clear or cloudy, a rosy sky at sunset presages fine weather; a sickly-looking, greenish hue, wind and rain; a dark (or Indian) red, rain; a red sky in the morning, bad weather or much wind, (perhaps rain;) a gray sky in the morning, fine weather; a high dawn, wind; a low dawn, fair weather. Soft-looking or delicate clouds foretell fine weather, with moderate or light breezes; hard edged, oily-looking clouds, wind. A dark, gloomy, blue sky is windy, but a bright, blue sky indicates fine weather. Generally the softer clouds look the less wind (but perhaps more rain) may be expected; and the harder, more "greasy," rolled, tufted or ragged, the stronger the coming wind will prove. Also, a bright yellow sky at sunset presages wind; a pale yellow, wet; therefore, by the prevalence and kind of red, yellow or other tints, the coming weather may be foretold very nearly; indeed, if aided by instruments, almost exactly. Small, inky-looking clouds foretell rain; light scud-clouds, driving across heavy masses, show wind and rain, but if alone, may indicate wind only. High upper clouds crossing the sun, moon or stars, in a direction different from that of the lower clouds, or the wind then felt below, foretell a change of wind toward their direction. After fine, clear weather, the first signs in the sky of a coming change are usually light streaks, curls, whisps or mottled patches of white distant clouds, which increase, and are followed by a murky vapor that grows into cloudiness. This appearance, more or less oily and watery, as wind or rain will prevail, is an infallible sign. Usually, the higher and more distant such clouds seem to be, the more gradual, but general, the coming weather will prove. Light, delicate, quiet tints or colors, with soft undefined forms of clouds, indicate and accompany fine weather; but unusual or gaudy hues, with hard, definitely outlined clouds, foretell rain, and probably strong wind. Misty clouds forming, or hanging on hights, show wind and rain coming, if they remain, increase or descend. If they rise or disperse, the weather will improve or become fine.

SPIRIT OF THE AGRICULTURAL PRESS.

CUT HAY EARLY.—The *Massachusetts Plowman* has a readable article on this subject. "Science and experience," it says, "alike indicate that grass should be cut early. But perhaps some one will say, 'What is the use of talking about chemical changes in the growth of meadow-hay? Get away with your science, and let us go on in the old way!' Very well, neighbor, let us say no more about 'chemical changes' in this connection, but apply one of the simplest tests of nature that the farmer can have; and we are sure it will settle the question for us more satisfactorily than all the scientific men in the world can do it. Many years ago, we remember to have read of a case in point, which will illustrate the argument we desire to present: Two farmers came to town, each with his own load of hay, and while they stood in market waiting for purchasers, a dispute arose as to which had the best quality of that article. After considerable discussion and argument, one of them proposed that it should be left to some competent arbitration, to which the other assented, and the first-named suggested that their wise old schoolmaster, who happened just then to come in sight, would be a suitable person. To this the other replied, that admitting the great learning and ability of the umpire suggested—his capacity to read Greek and do hard sums—he nevertheless might be mistaken; but he had in his mind an umpire whose judgment could be relied upon as unerring, and to that one only would he submit the case for decision, and that was not the schoolmaster, but the *schoolmaster's mare*. And so we say that if any persons see fit to reject the teachings of chemical science, in its application to this theory in regard to the proper time to mow meadow and swale grasses, let them refer it to the dumb beasts upon the farms. A month ago they would eat them with avidity; even now, horses and cows will, everywhere they have a choice of grasses, make them a part of their daily feed. How will it be a month later, after the flowering season has passed? Every farmer knows that they will not touch a spear of them if they can help it, and that next winter hunger alone will compel them to eat the hay."

THE CROPS IN EUROPE.—The *Mark Lane Express* of June 8th says the crops in England have suffered for want of rain, but during the week it fell in abundance, "and should this be general a fair crop may yet be gathered." Of the crops on the Continent it says: "The irregularity of the season, and especially the late frosts, have not been without damaging effects. The North of Italy is reported seriously to have suffered by the fluctuations of temperature, and prices have rather advanced in Piedmont. Hungary also is said to have suffered from drought, and though anticipations were generally favorable in Russia and Northern Europe, prices have been hardening in France and the adjacent countries.

CHINESE YAM.—A correspondent of the Prairie *Farmer* writes: The Chinese yam does best in a soil the subsoil of which is loose and contains little or no nourishment. The deeper the top soil the deeper the large part of the root will grow, as it seems to swell its root only when the fibres find no nourishment.

CORN FOR FODDER.—The *Boston Cultivator* says: "Fodder-corn may be planted till the middle of July. We say planted, for it is better to put it in drills—either by hand or by a machine—having the rows at such distances as will admit the passage of a horse-hoe or cultivator, to keep down the weeds. This is rather a hard crop to cure for winter use, unless it gets so well matured that the stalks have sufficient stiffness to stand in shock. In a greener state it is more valuable to feed out as soon as it is cut, or after being wilted. In this state it saves grass, aftermath, which may be cut for hay; and later in the season it may save hay directly."

TO PREVENT SKIPPERS IN HAMS.—There is, according to my experience, nothing easier than to avoid the skipper, and all bugs and worms that usually infest, and often destroy so much bacon. It is simply to *keep your smoke house dark*, and the moth that deposits the eggs will never enter it. For the past twenty-five years, I have attended to this, and never had my bacon troubled by any insect. I have now hanging in my smoke house hams one, two, and three years old, and the oldest are as free from insects as when first hung up. I am not aware of other causes for the exemption of my bacon from insects, but simply from the fact that my smoke house is always kept dark. Before adopting this plan, I had tried many experiments, but always without success, or with injury to the flavor of my bacon. I smoke with green hickory. This is important, as the flavor of bacon is often utterly destroyed by smoking it with improper wood.

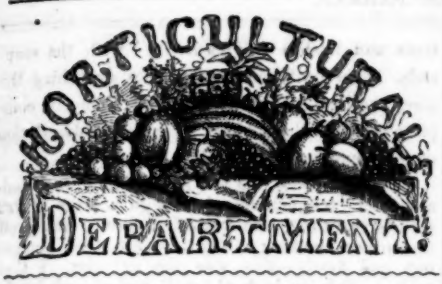
"THE LONG DROUGHT."—Under this heading the English papers are filled with complaints of the want of rain. "The spring corn, and in some instances the autumn wheat, are turning yellow from lack of moisture, as we have not had any dews this month." "We in Shropshire," says one writer, "have had nothing but cold east winds and sharp black frosts, which have cut off every potato shoot that showed itself in the gardens as well as in the fields. There is scarcely a blade of grass for the cattle."

REMEDY AGAINST THE CUT-WORM.—A correspondent of the *Germantown Telegraph* gives the following as a means of protecting corn from the cut-worm: When the corn has been up about a week, examine it; if it shows injury by the cut-worm, gather the *common mullein*, root and all, and place about every third or fourth row and hill top down, in the afternoon; in the morning following take a large tight basket and shake them off the mulleins into it, and feed them to the poultry."

GRUB IN THE HEAD OF SHEEP.—Dr. DADD, in a communication to the Prairie *Farmer*, says the only way to prevent grub in the head of sheep, is to put plenty of "grub" into the stomach of the animal—and that it is a well known fact that sheep properly attended to, well fed, and housed, are never troubled with the parasite known as the grub.

FOOT ROT IN SHEEP.—A correspondent of the *Ohio Farmer* gives the following receipt for the cure of foot rot: Pulverize blue vitriol and white lead together; mix it with spirits of turpentine to a salve, and apply this salve with a paddle to the sore part of the foot.

TO CLEANSE WELLS.—A correspondent of the *Massachusetts Plowman* says he made his well pure by bailing out the water, and filling up the well with straw and burning it. After this he washed the stones and put in a little slaked lime. It was found very effectual.



WALKS AND TALKS IN THE GARDEN—NO. III.

"I HAVE just been thinning out the pears. The trees are not loaded as they were last year, but some kinds require thinning more than one-half. I made a great mistake, last year, in not thinning more thoroughly. I cut off at least two for every one that was left; but if I had not left more than half as many, I should have had more fruit and of vastly better quality."

"There are few of our fruits that would not be greatly improved by thinning. Last year, Mr. MOODY, of Lockport, thinned out some of his peach trees, and he says that the fruit was double the size, and sold for more than double the price of peaches from unthinned trees growing in the same orchard. Furthermore, these large peaches can be picked with far less labor. One man picked eighty baskets in a day. He thinned out about two-thirds of the fruit. The yield for a tree so thinned was as much as from the trees not thinned."

"I do not know how it is generally, but our peach trees are more heavily laden than last year, and half of them should be thinned out at once."

"One great secret in raising good melons is to thin out the fruit, and to pinch in the runners three or four leaves above the melon."

"The severe wind we had about two weeks ago whipped the leaves of the pear trees most severely, and has certainly injured the appearance of the orchard, if nothing more."

"The more I see the more I am satisfied of the great advantage of a hedge or belt of evergreen trees to keep off the wind. That part of the garden surrounded with an Arbor Vitæ hedge is much better protected than that surrounded with the Osage Orange. Where high screens are desirable, I think the Norway Spruce would be even better than the Arbor Vitæ. It grows more rapidly, and will bear clipping almost as well as the Arbor Vitæ."

"The cut-worm is a nuisance. I set out a number of nice tomato plants, raised in the hot-bed and transplanted into pots, strong and stocky, with stems as thick as my little finger. The next morning I found six of them gnawed off clean, level with the surface of the ground. I thought they would destroy the whole, but after the first few days they seemed to disappear."

"Dr. H. says they have eaten off his Lima beans. The Doctor is very fond of Limas, and rather prides himself on his success in raising them. This year I hope to beat him. I do not care much for the beans myself, but it will be a pleasure to get the start of the Doctor. Last year I planted the beans in hills raised six inches above the ground. It was a dry summer, and the beans suffered for want of water. This year I have planted them on the level, and they are doing much better, so far. There are but few hills in which there are not three and four good plants a foot high. Mr. B. was here a few days since, and says he has some that are much larger. He planted them in pots in a hot-bed and transplanted them. He thinks this the best way to raise Lima beans."

[LATER AND IMPORTANT!—Mr. B. says (June 22) that his early Limas have grown very little the last ten days. He is now not sure but those planted in the open air and protected with a box will come out ahead.]

"If you have a good crop, there is nothing which yields more food than Lima beans. A returned missionary from Southern Africa says the Lima beans in that country are perennial, and grow to be a good-sized tree! They bear the year round. At all seasons of the year there are flowers, pods and ripe beans on the same tree, and a single plant affords food enough the year through for a family of five persons!"

"No wonder the inhabitants are lazy. Few of us would labor unless compelled by necessity. I have the greatest difficulty to get people to hoe unless the ground is covered with weeds. They think it is labor lost."

"We had a nice shower last night (June 11), and this morning every thing looks fresh and fine. But Oh! the poor melons, cucumbers and squashes! The striped bug is on them by hundreds. Hellebore powder will keep them off, but I have neglected to apply it."

"I have been told that if you sow a little buckwheat round the hills it will keep off the bugs Dusting plaster, ashes, lime, &c., over the plants does some good, and if the finger and thumb remedy is freely used at the same time the bugs can be kept under."

"The worms at the roots of cabbage and cauliflower plants trouble me as much as anything else. The little black beetles that eat the leaves are bad enough, but when the plants get fairly under way they do not injure them materially; but these mean little grubs at the roots are not confined to any particular time. They eat the roots in the seed-bed and when the plants are half grown. The earlier cauliflowers and cabbages are most liable to injury. My brother is trying soot as a preventive. In setting out the plants he scatters a little soot in the hole. Throw aside all plants that have grubs at the roots, or, if only slightly affected, clean off all the worms. Then stimulate the growth of the plants as much as possible, and trust to good growing weather and the inherent vigor of the plant to resist the grubs."

"These little white lice on the rose bushes need looking after. They suck out the juices till the leaf turns white. In the green-house they can easily be destroyed with tobacco smoke—smoking them two nights in succession, and giving the plants a good syringing the next morning. But in the open ground this remedy is not so easy of application. The bush has to be covered to keep in the smoke. I have been syringing them with whale-oil soap. This is a certain cure for the rose bug; but it does not destroy the aphis. Two or three syringings with tobacco-water, however, will destroy them. I mix the whale-oil soap and tobacco-water together. A pound of whale-oil soap and two pounds of tobacco stems, soaked for a few hours in hot water, will be enough for two or three pails of water. One syringing will not kill them, but stick to it for two or three days, throwing the water under the leaves as much as possible, and the result will be entirely satisfactory. Nothing improves the foliage of the rose like whale-oil soap."

"A cheap syringe is much needed. The Hydropult costs $10 or $12, and is so hard to work that no lady can use it for any length of time. The English brass syringes are excellent, but expensive. What we want is a syringe that should not cost more than a dollar. I saw one the other day made of tin, which cost only fifty cents, and it answered the purpose very well, considering the price. I am surprised that some one does not introduce them."

"George E. Brackett, of Belfast, Me, who wrote an excellent prize essay for the *Genesee Farmer* on the 'Study of Entomology,' tells how he made a 'squirt-gun' with which he syringed his trees and bushes on 'wash day' with the soapsuds. Two or three strong doses, drenching the trees, vertically, horizontally and obliquely, completely routed the aphides. Here is his description of his home-made syringe:"

"I bored a hole two feet long, with an inch-and-a-quarter 'trunnel-auger,' through a piece of 2x3 spruce scantling, and planed it down, taking off the corners, making it eight square, then plugged one end firmly—this was the cylinder. I then took a stick an inch through, and enough longer than the cylinder to be easily grasped by the hand, and made a piston from it by winding woolen yarn around one end, and fitting it exactly to the bore of the cylinder. A cross-peg was put through the piston-rod near the upper end to prevent its forcing out the plug; several small holes were then made through the plug, and the syringe was complete. This merely as an example: of course it may be changed to meet the means of all, as regards wood used, size of bore, &c. There should be several fine holes through the plug, some of them slanting to the center, so as to cause a shower of water in fine streams or jets. 'Poh! that's nothing but a squirt-gun.' Very well, never mind the name, if it answers the purpose."

"If every farmer and gardener had such a syringe, and used it freely, the country in a few years would not be so infested with injurious insects, fungi, &c."

"Strawberries this season are most abundant. Never have I seen such a crop as these Wilsons, Triomphe de Gand and Early Scarlet. These rows have been set out three years, and have never been renewed, and they still bear enormous crops. The runners have been carefully removed as fast as they appeared."

"I have one plot that was set out last summer, I think about the 1st of August—at least it was after a crop of peas had been taken off the land. The plants were set in rows two feet apart and eighteen inches in the rows. Nearly every plant grew, and now they are loaded with fruit."

About Cherry Trees.—The editor of the *Germantown Telegraph*, who is good authority on such subjects, says: "Persons are continually telling us of the unhealthiness of their cherry trees and the poor crops they furnish. They say they are full of knots, peeling off of the bark, cracking, &c. We reply that, to us, the cause is very plain. No tree requires as tender handling as the cherry. The cracking bark, the knots on the limbs, and other disfigurements, are attributable, we venture to say, nine times in every ten, to *external injuries*. A bruise from the trace of a plow, knocking the dirt off of a hoe or shovel, climbing roughly upon the limbs, rubbing or abrasion by ladder, as well as all harsh treatment by which the tree is bruised or skinned, will in a large majority of cases permanently damage the tree in the manner complained of."

GRAFTING GRAPES, &c.

In the April number of the *Genesee Farmer* we alluded to a discussion in the *Journal d'Agriculture Pratique*, between Dr. JULES GUYOT and M. HOOIBRENK, an Austrian horticulturist, in regard to a method of training the vine, which the latter claimed to have discovered, but which Dr. G. and other French writers thought was not new. M. HOOIBRENK appears to be one of those men whose writings are provocative of discussion. To this we do not object, as much truth is generally elicited by the discussion—even on subjects which are merely incidental.

It appears from the *Revue Horticole* that a discussion on the subject of grafting has arisen between M. BOISSELET and M. CARRIERE, chiefly respecting the merits, as compared with the usual way of cleft-grafting, of a mode of performing the operation, and of an instrument employed for the purpose by HOOIBRENK. M. BOISSELET, in the first place, defends the mode of cleft-grafting, which M. CARRIERE says was unnecessary, as it was not attacked; and secondly, he states that he has frequently tried grafting with the instrument above alluded to, but has never succeeded. On the other hand, M. CARRIERE affirms that with the same kind of instrument he has operated successfully not only in grafting the vine, but also the following plants: In spring, in the open air—apricot, cherry, plum, apple, pear, poplar, amygdalopsis, cytisus, all the species; in autumn (September), in the open air—apricot, cherry, pear, plum, cotoneaster, purple filbert, syringa, thorn; in autumn (September), under glass—the fruit trees above mentioned, together with the birch, oak, beech, thorn, lime, cotoneaster and conifers.

The editor of the *Gardeners' Chronicle*, alluding to the discussion, well observes:

M. CARRIERE mentions the time and circumstances under which he operated; but of these, in the case of his opponent, we are not informed. Now, in our opinion, the season, or state of vegetation of the plant, is the main point. If grafting is done at the right time, which may be sooner or later, according to the nature of the subject operated upon, almost any instrument with a cutting edge will do; but if done at the wrong season, the most ingeniously constructed instrument, with an edge as sharp as that of a razor, will not ensure success, and more especially in the case of the vine.

Many years ago, Mr. BRADDICK, of Thames Ditton, generally failed in grafting the vine at the usual time of grafting in spring. He however received some vine cuttings from abroad in summer, after his vines were in full leaf; and anxious to preserve the sorts, and for the sake of experiment, he then grafted them, though almost hopeless of success; but as it turned out, to his surprise, the grafts took well. By subsequent experiments, the results of which he communicated to the Horticultural Society, he established the fact that vines *ought not to be grafted till the stock or plant on which the scion is placed is in full leaf.* Most probably, therefore, M. BOISSELET's complete failure, with the vine at least, has occurred, like that of many others, in consequence of grafting at a season when the plant ought not to be cut on any account whatever; that is after the sap is in motion, and before the buds expand. Any incision made during that period, permits the vine to bleed, but most profusely if made just before the buds open; and the more vigorous the vine, the worse the bleeding. When large limbs of apple or other trees are cut and grafted just as they are on the point of bursting into leaf, the flow of sap is often so great as to "drown the graft," as suffusion from the overflow of sap is technically termed. But the loss of the graft is not the only bad consequence of the untimely operation; the unabsorbed extravasated sap ferments, becomes putrid or acid, and kills the vital tissue lying between the alburnum and inner bark. The stock consequently dies back to a greater or less distance below the wound, instead of keeping alive or healing over, as would be the case if cut back in autumn or winter. Many persons complain that their pears on quince stocks do not succeed well. They should recollect that the quince is among the earliest of deciduous trees in coming into leaf, and therefore it should be headed back for grafting early in the year at latest; for when done at the time of grafting, or after its sap is in active flow, it dies or cankers at the grafted part, so that a perfect union cannot possibly take place.

Presuming that due attention is paid to the proper time of grafting, the operation may be successfully performed in various ways. On the whole, we consider that in most cases whip-grafting is the most preferable; and what is termed in the *Revue Horticole*, DANIEL HOOIBRENK's system, appears to be nothing more nor less than whip-grafting. It is better than cleft-grafting, because more of the sections of the inner barks of the stock and scion can be made to coincide than by other modes. M. CARRIERE, who is a very intelligent horticulturist, details a case in which HOOIBRENK's mode, or what we may as well call whip-grafting, succeeded better than cleft-grafting. In the beginning of September, he took two vine shoots, of which the wood was then half herbaceous. One he cut in lengths of 5 or 6 inches, each piece being cut immediate under a bud at its base, and close above one at its top, exactly as if prepared for a cutting, but a slice at the top was taken off as in whip-grafting to receive the scion, formed of a portion of the other shoot, which latter was cut so as to preserve a bud and leaf at its top, whilst its base was cut sloping to fit exactly its counterpart at the top of the other piece, intended for the stock. The parts were then tied, and covered with grafting wax. Each grafted cutting or cutting stock was then inserted about half its length in a pot, and placed under a hand or bell glass in a propagating house. The leaf at the top of the scion continued to act, and contributed to the formation of roots, and the union of the graft.

This mode is not much required for propagating the vine, because it can be so readily struck from eyes; yet it might be usefully employed where it is desirable that any particular sort should be put upon a vigorous stock, such as the Black Hamburg. There are, however, many other plants for the propagation of which it might occasionally be very advantageously adopted.

DEATH OF DISTINGUISHED HORTICULTURISTS.

We have to record the death of two distinguished American horticulturists—Dr. William Darlington, of West Chester, Pa., and Dr. John A. Kennicott, of The Grove, Cook county, Ill.

WILLIAM DARLINGTON.

William Darlington was born at Birmingham, Chester county, Pa., on the 28th of April, 1782. His parents were farmers, and their son, after receiving a common school education, worked on the farm until he was eighteen years of age. He then studied medicine, but not succeeding in his profession he turned his attention to the study of languages and science—particularly to the science of Botany. He afterward resumed the practice of his profession with success. In 1814 he commenced to gather materials for his *Flora of Chester County*—a work, however, which was not published until 1826, and then under the modest title of *Florula Cestrica*. In 1837 he published another botanical work, which though of purely local character, run through three editions. He was elected to fellowship in the principal scientific societies of Europe, and Yale College conferred upon him the degree of LL. D. He paid considerable attention to landscape gardening, and it is to his influence that West Chester owes much of its horticultural eminence and beauty. His *Agricultural Botany* appeared in 1847, and added much to his reputation. The following extracts from the preface to that work will give at once an idea of the clearness of his style, his desire to see agriculture raised to the dignity of a science, and his own modesty in referring to the work of another:

"Agriculture, in a broad and legitimate sense, being a comprehensive system of Natural Science—involving more especially a practical acquaintance with the useful portion of the Vegetable Creation—I have long thought it due to the Profession, and desirable in every point of view, that the young farmers of the United States should acquire an exact knowledge of the plants which it immediately concerns them to know; and that they should be enabled to designate, and treat of them, with the precision and methodical perspicuity which belong to scientific language and arrangement. Under this impression, and in the hope of promoting an object deemed so important, the present work has been compiled. In submitting it to those for whom it is more particularly intended, I am not unaware that its technical features are ill-suited to the notions of many plodding disciples of the old school of agriculture, who despise every form of knowledge derivable from *books*—and whose ideas never stray beyond the manual operations of the field and the barn-yard. It is scarcely probable, indeed, that any written treatise—though couched in the most familiar dialect—would obviate the objections, or conciliate the prejudices of such antiquated tillers of the soil. My views, therefore, have not been directed to that unpromising quarter. I address myself to the youthful and aspiring Agriculturists of our country, who seek to elevate their noble Profession to its just rank among human pursuits—and who feel that the exercise of *intellect*, as well as of muscle, is indispensable to the accomplishment of their purpose.

"In my humble opinion, no education can be deemed sufficient without some acquaintance with the rudiments, or first principles, of Botanical Science—some rational knowledge of the vast and multiform creation around us, known as the Vegetable Kingdom. I consider such knowledge just as indispensable to a rightly-instructed people, as any of the usual elementary branches of school learning. By this, however, I do not mean the smattering of a few obsolete terms, unconnected with any available ideas—which, in too many instances, passes under the imposing name of 'Botany': but I do mean, that thorough conception of the general nature and relations of plants, which may be acquired by the aid of such works as the *Botanical Text-Book* of Prof. A. Gray. In all other employments, it is very properly expected that a workman shall not only be expert in the manipulations of his art, but shall also be well acquainted with the nature of his materials: and I can perceive no good reason why it is not equally incumbent on a practical farmer to understand the true character of those plants, which it is his especial interest either to cultivate or to extricate.

"If our American youths who are being educated with a view to Agricultural pursuits, were thoroughly instructed in the admirable *Text-Book*,

above referred to—and were then required to make themselves botanically acquainted with that portion of the vegetable kingdom which annually demands their attention, on the farm—the Profession would speedily assume a new and engaging aspect. The labors of the field would be blended with the contemplation of facts and phenomena of the deepest interest to inquiring minds—and *Agriculture*—instead of being shunned, as an irksome drudgery—would be justly esteemed as one of the noblest employments of a free and intellectual people."

Under the title of *American Weeds and Useful Plants*, Dr. DARLINGTON'S *Agricultural Botany* has recently been revised, with additions by Prof. GEORGE THURBER, of New York. It is an exceedingly valuable work.

We annex a portrait of Dr. DARLINGTON, which we have had engraved from the *Gardeners' Monthly*.

JOHN A. KENNICOTT.

Dr. JOHN A. KENNICOTT was a native of Montgomery county, in this State. He was the oldest of thirteen living children, among whom are several Dr. KENNICOTTS. To distinguish him from the other brothers, he was called "The Old Doctor," and was familiarly known among his friends by this title. His father's family moved to Western New York in 1817, and it was here that young KENNICOTT became acquainted with the late DAVID THOMAS, so well known to the early readers of the *Genesee Farmer*. It was from Mr. THOMAS that he imbibed that taste for horticulture which afterward distinguished him. His early education had been much neglected, but he endeavored by diligent study to make up for this great loss. He studied medicine, supporting himself in the mean time by teaching school, &c. After graduating, he practiced medicine a short time in Canada, and in 1828 traveled through the Western States, botanizing, &c. He lectured and practiced medicine one summer in Mississippi, and afterward visited New Orleans, where he started the first literary, scientific and religious paper published in that city. He became Principal of one of the schools, and also of the Orphan Asylum. Removing to Chicago he engaged in the nursery business, became one of the editors of the *Prairie Farmer*, Secretary of the State Agricultural Society, President of the State Horticultural Society, and one of the most earnest friends of agricultural and horticultural education and improvement in the West; and the *Prairie Farmer* well observes:

"In life the Doctor has been erecting monuments to his memory all over the Northwest, that are to last longer than marble. Thousands of homes have them growing in their grounds—in the beautiful, tapering, pyramidal evergreens, especially, which were such favorites at 'The Grove;'* and as each year adds stature to them and they point upward, they will always be a reminder of him who was always alive to every thing tending to improve or awaken interest in horticultural matin the land; and while tears will flow at his departure, from those who have known him long and known him best, from those who have ever met him at 'The Grove' with his warm and cordial greeting, all will rejoice that he has lived and still will live in the hearts and homes of so many."

THE *London Gardeners' Chronicle* refers to some Salsify exhibited by Mr. EARLEY, gardener at Digswell House, at the Royal Horticultural Society, in December last. The roots were as large as well grown parsneps. The editor remarks as follows in regard to its cultivation:

Given, the seed of a Salsify or other similar garden root, the question is, how to convert it into a presentable esculent. The answer is this: Let it be sown in poor but well wrought upper soil; and let there be, moreover, beneath this poor upper stratum, at a depth of 7 or 8 inches, a good bed of earth well manured. Then, unless accidents intervene, it will occur that the tap root not finding suitable pabulum near the surface will push its way downwards until it reaches the good soil, and being there supplied with abundant nourishment, it will acquire the necessary size and succulence, whilst the small rootlets given off in its progress through the poorer soil above will dwindle away, instead of acquiring bulk and impoverishing the main root, as they otherwise would be likely to do.

THE HYDROPULT—an American invention—meets with the highest praise from the *London Journal of Horticulture*. It says it really answers all the purposes for which the inventors recommend it.

* His place of residence, a few miles from Chicago.

FRUIT GROWERS' SOCIETY OF WEST. NEW YORK.

The summer meeting of this Society was held in this city June 24th. The attendance was not as large as usual, and the show of fruit was rather meagre—owing, probably, to the backwardness of season. Mr. Schuyler, of Seneca Falls, exhibited a magnificent plant of Russell's Seedling strawberry, loaded with fruit of great size and good quality. Some of the berries measured six and three-quarter inches in circumference! This strawberry is said to have been raised from Longworth's Prolific and McAvoy's Superior eight years ago. The parent plant is still in bearing, and produces large crops.

The following subjects were discussed:

1. *What is the most Profitable Strawberry for Market?*

H. N. Langworthy was called upon, and said he thought we might consider the Wilson's Albany as a profitable berry. The Large Early Scarlet is never to be lost sight of. The Triomphe de Gand is also good. If confined to one kind, he would prefer the Early Scarlet.

H. E. Hooker thought Wilson's Albany the most profitable single variety. It will produce more than the Early Scarlet, and sells for quite as much in market.

M. B. Bateham, of Ohio, said Wilson's Albany was the most profitable variety for market in that State. In Cincinnati they raise the Iowa or Washington as an early kind. There are large plantations of it. Some are introducing the Jenny Lind. He named the Jenny Lind for early, Wilson's Albany for the main crop, and Triomphe de Gand a little later.

Charles Downing, personally, did not like the Wilson. It is too sour. He spoke highly of Russell's Prolific.

Charles Hooker had been in the habit of raising strawberries for market for some years, and discarded all other varieties except Wilson and Early Scarlet.

Mr. Hoag, of Lockport, spoke highly of Cutter's Seedling and Downer's Prolific. They are of good quality, but not as productive as Wilson. Bartlett does not succeed with him. Has tried thirty varieties, but none come up to Wilson in productiveness.

2. *Which are the Four most Desirable Varieties for General Cultivation, including Early, Medium and Late Ripening Sorts?*

Charles Downing would name Jenny Lind, Longworth's Prolific, Triomphe de Gand and Russell's Prolific.

M. B. Bateham, of Ohio—Jenny Lind, Longworth's Prolific, Triomphe de Gand and Wilson's Albany.

R. Schuyler—McAvoy's Superior, Longworth's Prolific, Jenny Lind and Russell's Seedling.

E. T. Smith—Triomphe de Gand, Hooker, Early Scarlet and Wilson.

Dr. Sylvester—Jenny Lind, Hooker, Wilson and Triomphe de Gand. Hooker does not winter-kill with him. It is a little too tender for market.

H. N. Langworthy said the Hooker had no superior in flavor. It is an excellent berry in every respect. It is his favorite berry for his own eating.

P. Barry said it was difficult to select four varieties, but for his own use he would plant Early Scarlet, Hovey's Seedling, Longworth's Prolific and Triomphe de Gand. Among the newer strawberries he thought La Comptesse, though a foreign sort, was excellent.

3. *The Best Method of Cultivating the Strawberry.*

H. E. Hooker thought the most economical method of cultivation was to set out the plants in the spring in rows four feet apart and one foot in the rows. Keep the land clean by the use of the cultivator till the plants begin to make runners. Then stop cultivating all except a space two feet wide, which should be left for an alley between the beds. The runners, by the first of October, would fill the ground, and the original plants, as well as the runners, would bear a large crop the next season. After they had produced one crop, plow them under and plant again on new land.

H. N. Langworthy thought this a good way, but larger berries could be obtained by planting in hills three feet apart each way and keeping off the runners. They can be kept clean the first year by running the cultivator both ways between the hills.

Mr. Moody agreed with Mr. Hooker, that we should only attempt to raise one crop.

E. W. Herenden thought the Triomphe de Gand would not produce well unless the runners were kept off.

P. Barry said there was one serious objection to Mr. Hooker's method. The second spring after planting the ground became hard and the plants dried up, and you had no remedy. If planted in hills or rows, and the runners kept off, you could hoe the ground and mulch it, and thus keep it moist.

4. *What is the best method of Preserving Currant Bushes from the Ravages of the Saw-fly or Currant Worm?*

P. Barry said the most effectual remedy is slacked lime dusted on the bushes. One dressing will not

answer; but if done thoroughly, scattering the lime under the leaves, and repeated for several days, it is a certain remedy.

Dr. SILVESTER had tried whale-oil soap, and had succeeded in killing them. Had tried lime and found it effectual.

H. N. LANGWORTHY said lime will kill the caterpillars, if you can get it on to them. Strong soapsuds thrown on the bushes with a whisp-broom is good remedy. He thought the soap would destroy the second crop of eggs.

STRAWBERRY EXHIBITION IN NEW YORK.—A strawberry exhibition was held at the office of the *American Agriculturist*, in New York, on the 18th and 20th of June. There were 200 plates of strawberries shown by 26 exhibitors. A new seedling, raised by Mr. SETH BOYDEN, attracted much attention from its great size and good quality. Fifteen berries on one plate were put upon the scales, and were found to weigh a pound. It takes from 120 to 150 of those ordinarily sent to market to weigh a pound. Triomphe de Gand berries, 22 to the pound, were also shown.

HOEING CABBAGES.—We were recently in the garden of a friend, who is an early riser. On alluding to the vigorous growth and healthy appearance of his cabbages and cauliflowers, he remarked: "If you want good cabbages, you must *hoe them every morning before five o'clock.*" This was intended as a gentle hint that he thought we did not get up in the morning as early as a good gardener should. But be this as it may, there can be no doubt that cabbages and all similar plants are greatly benefited by repeated hoeings.

THE *London Gardeners' Chronicle* gives an account of a kind of mold which is attacking the roses. No remedy has as yet been discovered for it. An eminent rose-grower in Surrey says he has lost from 3000 to 4000 bushes grafted this season. The only means of checking the devastation seems to be to destroy the leaves which are affected immediately, and to remove the infected plants as far as possible from their healthy neighbors.

A GOOD deal of discussion is going on in the English journals as to the comparative merits of hot water and flue heating. The former is so much more costly than the latter, that persons of moderate means are anxious to dispense with it if possible, and at the same time to enjoy forced fruit and flowers. The advocates of the flue system seem to make out a very good argument.

INSECTS ON THE ARBOR VITÆ.

We had hitherto supposed that the arbor vitæ was free from insects, but it seems to share the fate of all useful trees, shrubs and plants. The arbor vitæ hedges in this section have been observed to turn brown in spots and the leaves to become stunted and dried up. It was thought at first to be caused by the cold of winter and severe winds. But the sheltered parts of the plant are affected as much or more than those exposed. On examining the dead leaves carefully, and dissecting them with a pen knife, a little worm, about a quarter of an inch long, is discovered; and there can be no doubt that this is the cause of the evil. We do not know that it is at all general, but if it should prove to be so, it will be a serious drawback to this most beautiful and useful of all our ornamental hedge plants. The Siberian arbor vitæ is also affected by it. Mr. H. E. HOOKER, of this city, called the attention of the Western New York Fruit Growers Society to these facts, but the members were not acquainted with the insect, although some said that it had been discovered in other sections a year or two ago.

TREE TOMATO.—The editor of the *Massachusetts Plowman* says his experience with this plant "compels him to say that it is not worthy of culture." It is late, a shy bearer, and the fruit is not so good as other varieties. We fear he is right. It did not succeed well with us last season, but we are giving it another trial. It is highly spoken of in France.

BRITISH QUEEN PEAR.—The *Florist and Pomologist* for June has a colored plate of a new seedling pear, raised by Mr. INGRAM, gardener to Her Majesty, at Frogmore. This pear is large and pyramidal, and very handsome. The late Prince ALBERT "characterised it as the best pear he had ever eaten." It is ripe in October.

A CORRESPONDENT of the *London Journal of Horticulture* recommends sulphuric acid for destroying weeds in gravel walks—a solution of seven parts of water to one of acid being used. If chalk or lime abound, the acid is speedily neutralized and the weeds spring up again.

CURRANT WORMS.—In answer to the question how to destroy the caterpillars on the gooseberry and currant bushes, the *Irish Farmer's Gazette* says: "Dust the bushes with fine, dry road dust, or ashes, while they are wet with dew or rain."

Miscellaneous.

POPULAR PROGNOSTICS OF RAIN.

The soot falls down, the spaniels sleep,
And spiders from their cobwebs creep;
Last night the sun went pale to bed,
The moon in halos hid her head;
The boding shepherd heaves a sigh—
A morning rainbow spans the sky;
The walls are damp, the ditches smell,
Closed is the pink-eyed pimpernel;
The squalid toads at dusk are seen,
Slowly crawling o'er the green;
Loud quacks the ducks, the peacocks cry,
The distant hills are looking nigh;
Hark, how the chairs and tables crack,
Old Betty's joints are on the rack;
And see young rooks, how odd their flight,
They imitate the gilding kite,
Or seem precipitate to fall,
As if they felt the piercing ball;
How restless are the snorting swine,
The busy flies disturb the kine:
Low o'er the grass the swallow wings,
The cricket, too, how loud she sings;
Puss on the hearth, with velvet paws,
Sits wiping o'er her whisker'd jaws!

Presence of Mind.—The famous Lord Chancellor, Sir Thomas More, once resided at Chelsea, and attached to his mansion was a gate-house, according to the old fashion. From the top of this gate-house a very pleasant and delightful prospect was obtained. His Lordship was in the habit of recreating himself in this place with his little dog. It happened that an insane man got up the stairs on one occasion when his Lordship was there, and coming to him cried, "Leap, Tom, leap!" offering Sir Thomas violence, and attempting to throw him over the battlements. The Lord Chancellor was a feeble old man, and being in his robe he was not able to make any effectual resistence; but having great presence of mind, said, "Let us first throw this little dog over." The insane man threw the dog down. "Pretty sport," said the Lord Chancellor; "go down and bring him up and try again." While the madman went down for the dog, his Lordship made fast the door of the stairs, and called for help; and but for his ready wit he would in all probability have lost his life.

The Glacier Trade.—Glaciers have become an important article of commerce! A great ice traffic is springing up in Switzerland, and the orders already received are enormous. At Grindelwald, hundreds of workmen are employed in cutting ice into blocks for sale. At the glaciers, after penetrating several layers, the laborers arrived at a natural grotto, one hundred and sixty feet long, eight feet wide, and eighty-five feet high. The men who first entered were lost in admiration at the magnificent spectacle. The grotto has since been lighted up with torches and illuminated with Bengal fire, and the light reflected from these walls of crystal, it is said, produces quite a dazzling effect.

"How many legs would a dog have, if you called his tail one?" "Five, of course." "No; only four. It wouldn't make his tail a leg to call it one."

He who seeks to increase the quantity of his lands by prosecuting groundless claims, will probably soon find himself as groundless as his claims.

A Musical Lesson.—A Highland piper, having a scholar to teach, disdained to crack his brains with the names of semibreves, minims, crotchets and quavers. "Here, Donald," said he, "tak' yer pipes, lad, and gie us a blast. So, verra weel blawn, indeed; but what's a sound, Donald, without sense? You may blaw forever without making a tune o't, if I dinna tell you how the queer things on the paper maun help you. You see that big fellow, wi' a round open face, (pointing to a semibreve,) between two lines of a bar, he moves slowly from that line to this, while ye beat ane with the fist and gie a long blast; if, now, ye put a leg to him, ye mak' twa o' him, and he'll move twice as fast; and if ye black his face, he'll run four times faster than the fellow wi' the white face; but if, after blacking his face, ye'll bend his knee, or tie his leg, he'll hop eight times faster than the white-faced chap I showed you first. Now, whene'er you blaw your pipes, Donald, remember this—that the tighter those fellows' legs are tied, the faster they'll run, and the quicker they're sure to dance."

Love of the French for Flowers.—The passionate love of flowers is a marked characteristic of the Parisians, and the sale of flowers is in Paris an extensive and lucrative branch of trade. It is computed that the various little patches of ground in the vicinity of the French Capital, appropriated to floral cultivation, realise an annual income of over $6,000,000, and give employment to 500,000 persons. In Paris alone there are no fewer than 284 florists, and on occasions of public festivity their conjoint traffic not unfrequently amounts to $14,000. At a *fete* given last season by one of the foreign ambassadors, the cost of the flowers was $4,400.

Origin of Black Coats in the Clergy.—In the year 1854, Luther laid aside the monk's costume, and henceforth dressed according to the fashion of the world. He chose black cloths, and consequently the color has become the fashion of the clergy. His reason for choosing this color was, the Elector of Saxony took an interest in him, and now and then sent him a piece of black cloth, being at that time the Court fashion, and because Luther preferred it; so his scholars thought it became them to wear the same color as their master. From that time black has been the color mostly worn by the clergy.

An Australian correspondent of an English paper writes: "In a stony creek, fifteen miles from Castlemaine, were found the bodies of three aboriginals, quite whole, and not wanting in the smallest details, but which were petrified into solid marble. When I last saw them, I thought they were actually alive, until on going closer, I noticed the eyes. They are in a sitting posture, and the veins, muscles, &c., may be distinctly traced through what is now a group of stone blocks; they are in a splendid state of preservation, even the finger-nails, teeth, &c., are as perfect as they were five hundred years ago. One of them has a stone ax by his side without any haft."

A modern cotemporary calls veal "unfinished beef." This is pretty good; but why not extend the vocabulary? Suppose we term lamb "incipient mutton," and denominate pig "premonitory pork?"

Young People's Page.

HUNT IN A HORSE-POND.

Frogs and newts have a new interest now that aquariums are becoming so common, and we make the following extracts from Buckland's well-known *Curiosities of Natural History*, which perhaps may give our young readers a new interest in these not very attractive-looking creatures:

But let us return to our horse-pond; we have been sitting there some time, looking at, and thinking about, the frog family. The sun is very hot, and no horse has come to drink. Like a dandy from his club, decked in his best, the great water-newt, Sir Triton Cristatus (the king of the pond in the absence of the ducks, who are his arch-devourers,) rolls lazily forth from his hiding place. Look at his beautiful coat, and his orange-colored waist-coat—down the whole length of his back disports a magnificent crest,* for just now he is in prime condition. He is indeed a handsome beast, and by the way he parades himself up and down, in front of his favorite batch of weeds, he evidently knows it.

"O formose, 'Triton,' ninium ne crede colori."†

We want you: how are we to get you? The question is often asked, "What did your godfathers?" &c. My godfather, peace to his memory, gave me a silver cup and a bit of advice. Sir Francis Chantrey was a fisherman, and a practical man. "Never," said he, "go without a knife, a bit of string, and a sixpence." We have followed his advice, and have all those three articles in our pocket. When we see the Triton, our obedience to sponsorial authority is rewarded. We cut a stick with our knife, we tie a bit of string to the end of it: now for a hook—ah, here is pin already, in the corner of our coat; this is soon crooked, and a worm affixed thereto; Triton sees it, he snaps eagerly, we have him, and for the first time in his life he is tied up in the corner of a pocket handkerchief. But where is Lady Triton? Not far off; she is recognised by her crestless and russet-colored body, but she refuses the worm. She shall be caught, nevertheless, by means of our sixpence. This is quickly changed into fine brass wire at a neighboring shop, the proprietor of which seems to sell every thing, from a nail to a flitch of bacon, or a pair of old woman's pattens. In true hangman style, a noose of wire is made and fastened to the stick—the captive couple meet again in the pocket handkerchief.

The newts are stupid things, and do not profit by experience. In a pond, in a brick-yard not far from Hanwell, I caught many beautiful specimens: the worm was fixed on to a good-sized fish-hook in this instance, and it was impossible for the lizard to get the hook into its mouth. I had a good day's sport, although I only *hooked* one; the others I caught by allowing them to bite at the worm; they went at it fiercely like bull-dogs, and held on tight like these animals. I gave my victim plenty of time, and when he had got a firm hold, quickly but cautiously pulled him out of the water. If the line becomes at all loose the Triton escaped. I found that they were caught by their teeth sticking into the worm. One Triton actually took the bait seven times, and was pulled out of the water thrice before I got him.

The scene changes: the male and female newt have now resided a week in a private crystal palace of a globular shape. What we observed about them, imprimis, was that they lived like Mr. and Mrs. Sprat, and always quarrelled at dinner-time: a worm was given them—the gentleman did not wait for the lady, but seized the one end of the worm while she seized the other—each gulped their portion down as fast as Italians their maccaroni; but there must be an end to all things, and worms are included in the category. In due time the loving couple meet, nose to nose, each having swallowed exactly half a worm. Husband looks daggers at wife, as much as to say, What business have you here? The compliment is returned, and they begin waltzing, twisting, twirling, and rolling over each other, round and round their globe; neither will drop the worm, neither will cry "peccavi;" somebody must give way, and that somebody is the poor worm, who "comes a two in the middle," and settles the conjugal difficulty.

One day I quietly let a worm fall exactly between two large newts that were resting at the bottom of my vivarium; they both turned at it at the same moment, and both made a bite. The worm gave a wiggle just at that moment, and both newts missing him, caught hold of each other by the forelegs—newt A having the right leg of newt B in his mouth, and newt B the leg of newt A in the same position; they soon found out their mistake, and began writhing and tumbling about over and over, round and round the vivarium, as tightly fixed to each other as a couple of bull-dogs, knocking off the shells from the sides, and frightening the poor water-beetle out of his wits, and causing him to ply his oars vigorously. Both of the combatants at last seemed tired, and opening their mouths, set free the captured legs; they then retired to opposite ends of the tank, thoroughly exhausted. Could these two creatures when fighting have been seen under a powerful magnifier, they would have realized the strange pictures we see in Mr. Hawkin's book on *The Sea Dragons*.

This lizard-fishing must be profitable sport to somebody, for on asking the price of some medium-sized specimens at Covent Garden, in a shop up the stairs, I found they were worth threepence each. Tadpoles also were saleable articles, and cost twopence a dozen, and the water-beetles, that have oars like a waterman (dytiscus), cost from twopence to sixpence each. Of "weed" they could "make any quantity, a pennyworth, or sixpennyworth"—so something saleable is to be got even out of a horse-pond.

The dove, recollect, did not return to Noah with the olive branch till the second time of her going forth; why, then, should you despond at the failure of the first attempt?

Cultivate your heart aright, and remember "whatsoever a man soeth that shall he reap."

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*I find that in captivity this crest becomes absorbed in a few days; the colors on the belly also lose their brilliancy.

†O beautiful Triton, do not trust too much to your appearance

Ladies' Department.

ORIGINAL DOMESTIC RECEIPTS.

Contributed to the Genesee Farmer.

RHUBARB WINE.—Dr. MARSH, of the United States Sanitary Commission, gives the following receipt for making rhubarb wine: Peel and slice as for pies; put a very small quantity of water in the vessel, only just enough to cover the bottom; cover the vessel and gradually bring to a slight boil; then strain, pressing out all the liquid; to this liquid add an equal quantity of water; to each gallon (after mixed) add from four to five pounds of brown sugar; set aside, ferment and skim like currant wine; leave in the cask and bulk as long as possible before sending away. All wine is better kept in casks.

TO MAKE TRANSPARENT PAPER AND CLOTH.—Take a sheet of tissue paper, dip it into a solution of silicate of soda or potash (soluble glass), press it gently, and when dry it is complete. Another method is to dip the paper in a thin varnish of pure Canadian balsam, and allow it to dry thoroughly, when it is ready for use. This latter method also renders fine linen cloth transparent, and capable of being used for tracing out drawings. Paper can also be rendered transparent by dipping it in limpid oil, then drying it in a warm situation; but it is not good for tracing paper when made in this manner.

FRITTERS.—One-half pint of milk, four or five tablespoonfuls of flour, and one egg—the white and yolk beaten separately. This will make batter enough for a small family. Fry in an abundance of lard, very hot. They should be served with butter, sugar and cider or wine. A little chopped apple can be added, and is quite an improvement.

STRAWBERRY WINE.—Press out the juice from the strawberries, and add two quarts of water to each quart of juice. Loaf sugar is then added at the rate of one pound to the gallon. Put into a barrel in a cool cellar, and ferment in the usual way.

WE republish by request the following receipts, which we gave last year, with some additions:

RASPBERRY VINEGAR.—Take three or four quarts of raspberries, put them in a stone crock and cover them with vinegar. Let them stand twenty-four hours. Then strain this juice through a jelly-bag and pour it on to fresh berries, letting this stand another day. Repeat this process until you have the quantity you desire. Add to each pint of juice one pound of sugar. Put it into a preserving kettle and allow it to heat sufficiently to melt the sugar. When it is cold, put it into bottles. It will keep several years.

CURRANT WINE.—One quart of currant juice, two quarts of water, three pounds of crushed sugar, and to each gallon of the mixture add one gill pure brandy. Place a cask upon its side with the bung up, and fill it entirely. It will require replenishing, as it wastes by fermentation, and the cask should always be kept full.

CURRANT JELLY.—Pick fine red and large ripe currants from the stems, bruise them and strain the juice from a quart at a time through thin muslin, pressing it gently to get all the liquid. Put a pound of white sugar to each pound of juice; stir it until it is all dissolved; set it over a gentle fire; let it become hot and boil for fifteen minutes; then try it by taking a spoonful into a saucer. When cold, if it is not quite firm enough, boil it for a few minutes longer. It may be made by standing in the sun, without boiling, if put in a very warm place, and is generally of a much better color than when cooked by the fire.

LACE AND MUSLIN CURTAINS.—After washing and starching them it is much better to stretch them upon a sheet fastened to the carpet than to iron them. They must be pinned to the sheet very carefully. The pins should not be more than four or five inches apart. Although this is a good deal of labor, the improved appearance of the curtains is a full compensation. Shetland shawls can be dried in the same way.

STRAWBERRIES.—This delicious fruit is so acid that it requires the full complement of a pound of sugar to a pound of fruit to prevent its spoiling before winter. They preserve their shape and color better if they are only partly cooked in the sirup, and then allowed to stand in the sun two or three days; but if cooked entirely by the fire, they should be put into jars while hot and sealed immediately.

THE *London Lady's Newspaper* says: "The newest petticoats (garments which are at the present day fully as important matters as any in the toilette) are white ones, braided with black worsted braid. There is a deep hem round the edge, and above it the braided design is carried about a quarter of a yard. The design should be elaborate to produce a good effect. The striped cotton petticoats so much in vogue during the past two years, are now entirely discarded; they were failures in that the colors gradually washed out, and then the petticoats assumed a very shabby appearance. They are now replaced by French rep, jean and cashmere, which, although more expensive, prove more satisfactory in the end."

THERE *is* such a thing as an unsociable-looking room. Its atmosphere oppresses you like the presence of a cold, loveless, ungenial person. A "company" aspect is a horror. Things done up in *perpetual bag*, whether people or furniture, are an abomination. A stray cobweb, or a thumb-mark on a door, may, after all, be desirable. Darkened upholstery shops are not good models for private parlors, despite fashion. A few ginger-bread crumbs, or a little worn-out shoe, are not *always* unpleasant objects of contemplation.

DEMOREST'S QUARTERLY WORLD OF FASHION.—This is a most valuable periodical for dress-makers, and indeed for ladies who wish patterns of any kind. Each number has four full-sized patterns for dress sleeves, collars, sacques, &c., and a large variety for braiding and embroidery. In addition, the fashion plates are large, and the illustrations of various styles of bonnets, &c., are numerous. One dollar a year; twenty-five cents a number.

Notes on the Weather from May 15th to June 16th, 1863.—While the first half of May was 3° colder than the average for this half, the last half was 7.1° above the average for twenty-six years. Hence the average for May was 57.9°, or near 2° above the monthly mean. The average for the last eleven days was 62.4°. The hottest noon was 87° on the 22d, but the hottest day was 72°, on the 23d. Vegetation made rapid strides. The flowers of the common fruit trees most profuse. The rain in the month of May was only 1.86 inches.

June began cool, and so continued: the mean of the first half being only 62.7°—0.6° below the average for twenty-six years. Indeed, this half was about 2° colder than the last half of May, though it is usually several degrees warmer. The hottest noon was 86° on the 15th, which was the hottest day, 73.3°.

The rain in this half is 0.61 inches only. The showers have been few and small. Lightning very little.

The season has been pleasant; vegetation rapid. The prospect of the peach crop is most gratifying, to say nothing of the other usual tree fruits. Strawberries from Northern Ohio reached our market near a fortnight since, and the gardens about us began to supply our tables with this luxury perhaps five days since—large, fine, delicious. The usual market vegetables have appeared quite as early as usual. The indications of an abundant harvest have come to us from a very extensive portion of our country already.

Wool.—In this section little or nothing is doing in the wool market. The farmers expect to get 75 cents a pound for their wool, and buyers are "talking" 50 to 60 cents. There is undoubtedly a large amount of imported wool in the market; but, on the other hand, the consumption of wool by the manufacturers was never so great as at present. A few decisive Union victories would lower the price of gold, and consequently the price of wool, while any disaster to the Federal arms would have the reverse effect.

Time of Sowing Wheat.—Since writing the article on this subject in the present number of the *Farmer*, Mr. B. Randell, of Mendon, one of the best wheat growers in this county, informs us that the early sown wheat is not as good as that sown from the 20th to the 25th of September. His observations, therefore, confirm those of Mr. Johnston. Late sowing, however, he says truly, will not answer when the ground is poor and in bad condition.

We have great pleasure—and do so unsolicited—of calling the attention of our readers to the advertisement of G. Westinghouse & Co., of Schenectady, N. Y. Their Horse-Power Threshers, Clover Hullers, &c., are well made and every way excellent. Send for one of their circulars.

Literary Notices.

THE NATURAL LAWS OF HUSBANDRY. By Justus Von Liebig. Edited by John Blyth, M. D., Professor of Chemistry in Queens College, Cork. New York: D. Appleton & Co. 1863. Price, $1.50.

We need hardly say that this work merits, and will receive, the attention of scientific agriculturists in America. However much we may differ on certain questions, it must be admitted that Liebig has done more for scientific agriculture than any other living man. The appearance of his work, *Organic Chemistry in its Applications to Agriculture and Physiology*, in 1840, formed a new epoch in scientific agriculture. The numerous experiments which have since that time been made, both in the field and the laboratory, are mainly due to the discussions which the work elicited. A bold, clear and enthusiastic writer, the works of Liebig have been read throughout the civilized world; and in no country have his writings been more popular than in America. That he has promulgated some error—that he has lashed unmercifully those who have endeavored to correct him—and that he has not always been consistent, must be admitted; still we can not ignore his opinions. Every scientific farmer should examine them carefully. If erroneous, they will be refuted; but no intelligent man, in the mean time, can afford to be ignorant of them. They give color to all our agricultural discussions. The latter will elicit much truth; but to a right understanding of these it is essential to study Liebig. We commend this work, therefore, to the diligent perusal of every farmer who wishes to keep up with the agricultural sciences of the age.

THE ATLANTIC MONTHLY. Boston: Ticknor & Fields. Price, $3.00 per annum.

The July number of this excellent magazine commences a new volume. Now is a good time to subscribe. The *Atlantic* is unquestionably the ablest literary periodicals published in America.

The Markets.—Prices have not materially changed since our last report. Beef is still high, but our latest New York advices quote it a shade lower. Some prime beeves brought 12 to 12½c. per lb. for the net weight of carcass. Sheep and lambs were abundant, especially those of inferior quality. Prices were ½c. per lb. lower. Good fat sheep bring from 5 to 6c. per lb. live weight; lambs, 8 to 10c. per lb. Hogs are higher and in demand at from 5 to 6c. per lb. live weight. Milch cows have declined $3 per head.

Butter, as usual at this season, is dull and lower. Prime yellow may be quoted at 20 to 23c. per lb. in New York. Ordinary to "striped" 13 to 16c. Cheese is very firm and active. Ordinary sells for 7 to 9c.; State, fair to good, 9 to 11c.; extra, for export, brings 12½c. per lb.

Farms for Sale.—No 12.—A farm of 140 acres adjoining the city limits of Fond du Lac, Wis. Well fenced—water and shade in every lot. Prairie, with scattering trees. Good, new house and barn, and abundance of choice fruit of all varieties. A most desirable location. Will be sold for $75 per acre—which is very cheap.

No. 13.—A farm of 56 acres of improved land, beautifully situated two miles west of Penn Yan, N. Y. Well fenced, well watered, a good variety of fruit, with buildings nearly new, costing about $2,000. Price, $100 per acre.

Half Volume of the Genesee Farmer.—The present number commences a half volume of the *Genesee Farmer*. Subscriptions for the six months will be thankfully received at thirty cents each, or four copies for one dollar.

Inquiries and Answers.

HORN SHAVINGS.—I have means of procuring, at a cheap rate, horn pieces and shavings, which I think should be useful to me, but in their present condition are almost indestructable. They are cow and bullock horns, cut in pieces, say 2x4 inches, and pressed, after being boiled in oil. Some are nearly whole, others are shaved to a feather at one end. Perhaps two-thirds are shavings, of all kinds, some very thin and light. All these sorts are mixed together. I plowed some under, three years after they were turned up, and some of the thicker pieces had not lost their polish. I tried composting, in alternate layers, horn and unleached ashes. In one year's time I overhauled the pile. The thicker ends were untouched, the thin ones rotten, in proportion to their size. Perhaps about one quarter of it was in a condition to be available for plant-food immediately. This I thought did not repay me for the loss on the ashes and the labor. Sulphuric acid will not touch them. Boiling in potash probably would, but it will not pay. No bone mill (were one available) could crush them. I intend making a compost heap of muck and horn in about equal parts, and watering with urine. Will this, repeated three or four times, do any good? Pray give me your opinion. If I can make them useful, I have a large quantity of good fertilising material on hand.

These pieces are got out for making handles to "machites" (a long Spanish knife like a Roman sword). The dust (of polishing and filing the handles) I find of value on root crops, corn, &c., but has no perceptable effect as a top dressing on grass. Should you desire, I will send you a few pieces of the horn.

I cannot close without again expressing my sense of the high value of your writings. The "Experiments on Sheep Feeding," in the January number, which I have just read, is alone worth five times the cost of the paper. H. S. COLLINS, *Collinsville, Ct.*

We have had no experience in the use of horn-shavings. Prof. WAY gives an analysis of a sample which was found to contain 12 per cent. of nitrogen (as much as a good sample of Peruvian guano contains). It sold in London for $35 per ton. He does not say how they were used. JOHNSTON is alike silent on this point. He says: "Horn, in the form of horn-shavings, is justly considered as a very powerful manure. Even in the state of shavings, however, it undergoes decay still more slowly than woolen rags; and therefore, like them, will always be more safely and economically employed when previously rotted by being made into a compost." MCINTOSH, in his *Book of the Garden*, after stating that "horns have been strongly recommended by some," says: "Repeated trials have not led us to a like conclusion." We suppose that the truth of the matter is, that horns are exceedingly valuable *if they can be decomposed;* but this is difficult to accomplish. If you succeed in doing so, we hope you will inform us of the method employed, and of the effect of the compost.

OUTSIDE CELLARS.—"G. G." of Girard, Pa., inquires about an outside, or as we call them here, an outdoor celler. Like "G. G." I have a damp cellar under my house, so that vegetables, fruit, &c., do not keep well in it. Some years ago I constructed an outdoor cellar about fifteen rods east of my house. It is on the side of a hill sloping toward the south. The cellar is 12 by 14 feet inside, and 8½ feet deep. The north side and two ends are walled up and pointed with lime mortar. The wall on the south side is about four feet high. From this wall to the plate of the roof it is boarded on the outside, and lathed and plastered inside. At the southeast corner I have a door, or rather two, one opening into the cellar, the other outside. These are kept closed in the winter, and admittance to the cellar is from the chamber through a scuttle or trap door. All kinds of vegetables, apples, &c., keep in the best possible manner. On top of the walls sills are framed, and a roof shedding the rain on the north and south sides. A double floor was laid over the cellar, and about six inches of loam spread upon the floor to keep out the frost, &c. I usually cover the potatoes in the bins with a layer of evergreen boughs or with straw. I have suffered very small loss of potatoes some winters when they had no covering to protect them. I use the chamber, or rather garret, for storing away plows, scythes, rakes, and such like farm tools, through the winter—they are safe from fire. I very much regret that I did not put on a story instead of simply having a roof over the cellar. It would have been a nice and place for storing such tools as were not wanted for winter use.—L. BARTLETT, *Warner, N. H., May*, 1863.

THE CROPS.—In this section the weather has been cold for the season, and corn is very late. Wheat will not be an average crop. The midge has made its appearance, but it is hoped that the cool weather will check its ravages. Grass is good. As yet little has been mown. Fruit is generally abundant.

WE would call the attention of those interested to the advertisement of "Sheep for Sale" in this number of the *Farmer*. Mr. LORILLARD has unquestionably the best Shropshire Down sheep in America. We have never seen anything superior to them.

ADVERTISEMENTS.

A FEW short advertisements of interest to farmers—and only such—will be inserted in the *Genesee Farmer* for twenty-five cents a line, or $2.50 per square, each insertion, payable in advance.

S. M. PETTENGILL & CO.

No. 37 Park Row, New York, & 6 State St., Boston, are our Agents for the GENESEE FARMER in those cities, and are authorized to take Advertisements and subscriptions for us at the Lowest Rates.

THE GENESEE FARMER.

A Monthly Journal of Agriculture and Horticulture, published by JOSEPH HARRIS, Rochester, N. Y.

Terms—INVARIABLY IN ADVANCE—SIXTY CENTS A YEAR. Six copies for $3.00 and larger clubs at the same rate, 50 cents a year.

SCHENECTADY AGRICULTURAL WORKS

G. WESTINGHOUSE & CO., PROPRIETORS.

SEND FOR A CIRCULAR—Containing a full description of the unequalled

LEVER AND ENDLESS CHAIN HORSE POWERS,
THRE-HERS AND CLEANERS,
CLOVER HULLERS,
WOOD SAWS, &c.,

manufactured by the subscribers.

☞ Particular attention is invited to a new Universal Thresher and Cleaner, with a Riddle or Vibrating Separator.

Address G. WESTINGHOUSE & CO.,
jy-tf Schenectady, N. Y.

"THE SORGO HAND BOOK."

NOW READY—And sent free on application to agents of the "Clark Sorgo Machine Co." Cincinnati, Ohio, Manufacturers of

HEDGES' & CLARK'S CELEBRATED CANE MILLS

With great improvements for 1863; or of Blymyer, Bates & Co., Mansfield, Ohio, Manufacturers of the unrivalled

COOK SUGAR EVAPORATOR.

BAUGH'S
RAW BONE
SUPER-PHOSPHATE OF LIME.

BAUGH & SONS,

MANUFACTURERS & PROPRIETORS,

No. 20 South Delaware Avenue, Philadelphia.

THE manufacturers are now prepared to supply a large demand with this valuable Manure. They would respectfully announce to Farmers and Dealers in Fertilizers, that the price has been advanced to $46 per 2000 lbs. It need scarcely be mentioned that this change has been rendered necessary by the greatly increased cost of materials and labor, as well as by the operation of the U. S. Tax upon manufactures.

Every Farmer using a Fertilizer, may be assured that the RAW BONE PHOSPHATE will still maintain its high character for *strength* and *purity*, the manufacturers preferring to make a small advance in the price per ton, rather than allow its merits to fall below their former standard, under increased expenses in manufacturing.

☞ It is prepared from Raw Bones, and warranted to contain all their original organic matter—no burned or calcined bones are used, and it is sold under a guaranty from the manufacturers that it is free from adulteration.

THE DEMAND FOR BAUGH'S RAW BONE SUPER-PHOSPHATE last year *greatly exceeded* that of any previous one, which is a substantial evidence of its high standard of popularity.

Price $46 per 2000 lbs.—Cash.

The above Manure may be had of regular dealers, or of

BAUGH & SONS,

No. 20 South Delaware Avenue, Philadelphia.

☞ The highest cash price paid for Bones. mh 6m

SHEEP FOR SALE.

IN August there will be for sale One Hundred South Down and One Hundred Shropshire Ewes and Rams, as I wish to reduce the stock, having more than I can keep.

☞ Inquire of JACOB LORILLARD,
jy'58 80 Front street, New York City.

BLOOMINGTON NURSERY.

160 ACRES. FRUIT AND ORNAMENTAL. A very large and reliable assortment. AGENTS WANTED.
jy'58 F. K. PHŒNIX, Bloomington, Illinois.

WESTERN NEW YORK PATENT AGENCY—Office, 108 Arcade, ROCHESTER, and No. 5 Hollister Building, BUFFALO, N. Y. Patents obtained on unusually favorable terms. *Rejected Applications* prosecuted without charge unless successful. Send for a Circular.

jy'58 J. FRASER & CO.

CHOICE NATIVE AND FOREIGN GRAPE VINES.

—LENK & CO. OFFER FOR SALE A LARGE stock of Native and Foreign Grape Vines, including all the rarest and most valuable varieties. Send for a Price List.

Address LENK & CO.,
no'57 Humboldt Nurseries, Toledo, Ohio.

GRAPE VINES FOR SALE.

FORTY BEST NATIVE VARIETIES. Also a general assortment of small fruits. Send for a catalogue. Address

R. B. SHAW,
mh Trenton Falls, Oneida Co., N. Y.

A FARM IN MICHIGAN.

A SMALL FARM, unimproved, about 14 miles from Detroit. Good land, and near a Railroad Depot. Address

JOSEPH HARRIS, Rochester, N. Y.

BOOKS FOR FARMERS.

THE following books can be obtained at the office of the GENESEE FARMER:—

The Horse and his Diseases	$1 25
Everybody's Lawyer	1 00
Mrs. Hale's Modern Cookery Book	1 00
Allen & Flint's Manual of Agriculture	0 75
Rural Poetry of the English Language	2 00
[illegible]'s Fruit Garden	1 50
Thomas' Fruit Culturist	1 50
The Rural Annual and Horticultural Directory for 1856, '57, '58, '59, '60, '61, '62 and '63, handsomely bound, in 2 vols.	2 50

Any of the above books will be sent, *prepaid*, by return mail, on receipt of price.

Address JOSEPH HARRIS, Rochester N. Y.

To Farmers,
To Dairymen,
TO COUNTRY MERCHANTS.

ALL WHO HAVE FOR SALE

FURS AND SKINS,
FRUITS, Dry and Green,
CHEESE,
LARD,
HAMS,
EGGS,
POULTRY,
GAME,
VEGETABLES,
FLOUR,
GRAIN,
SEEDS,
SORGHUM SUGAR AND SIRUP, &c., &c.,

Can have them *well* sold at the highest prices in New York, with full Cash Returns always within TEN DAYS of their reaching the City, by forwarding them to the Commission House for Country Produce of

JOSIAH CARPENTER,
32 Jay street, New York.

N. B.—The advertiser has had abundant experience in this business, and trusts that he will continue to merit patronage by the most careful attention to the interest of his patrons. The articles are taken charge of on their arrival, and carefully disposed of promptly to good cash customers, and cash returns made immediately to the owner

☞ The highest charge made for receiving and selling is *five per cent.*

A New York *Weekly Price Current* is issued by J. CARPENTER, which is sent free to all his patrons. A specimen copy sent free to any desiring it. A trial will prove the above facts. For abundant references as to responsibility, integrity, &c., see the *Price Current.*

☞ Cash advanced on Consignments of Produce.

SEND FOR

A FREE COPY

OF

PRICES CURRENT,

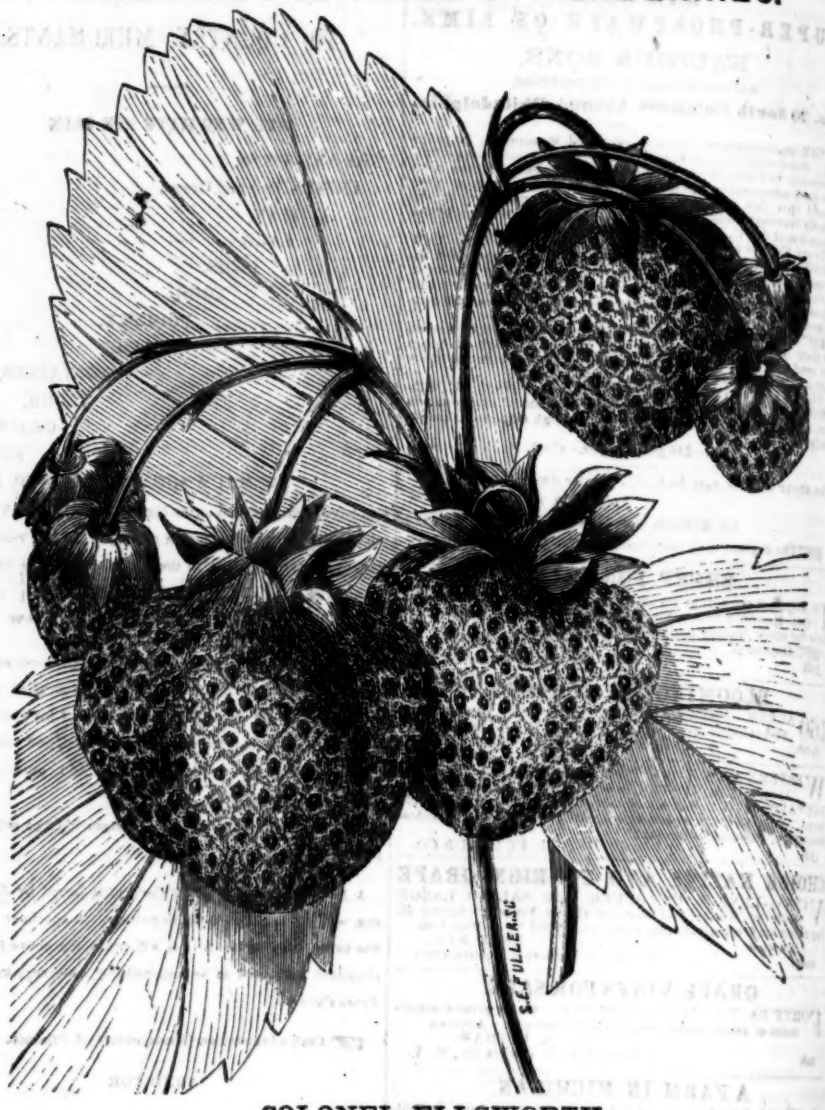
And all other Particulars,

TO

JOSIAH CARPENTER,

jan'58-1y **32 Jay-street, New York.**

THE TRIBUNE PRIZE STRAWBERRIES.

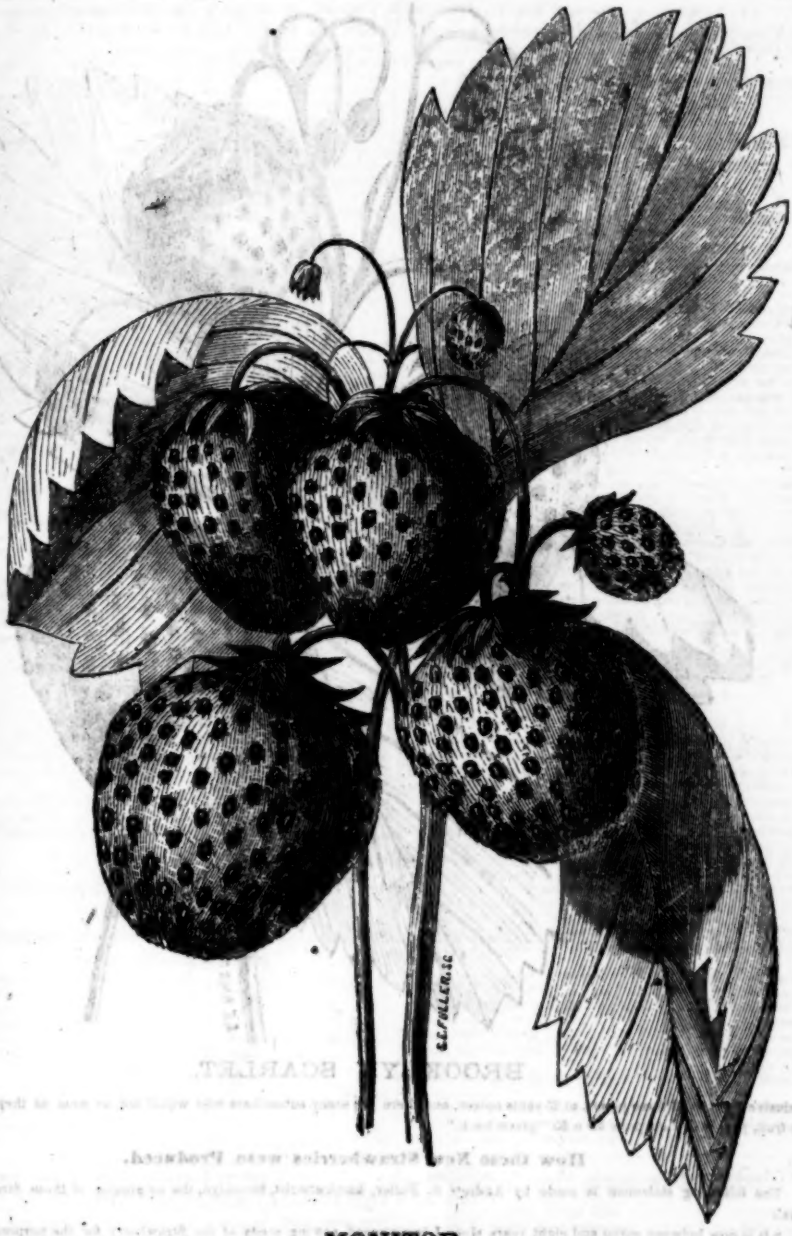


COLONEL ELLSWORTH.

How they Originated—How they Look and Taste—Why they are Given to the Subscribers of the Tribune—When and to Whom they will be Distributed.

The cuts herewith presented represent "THE TRIBUNE PRIZE STRAWBERRIES"—so named because we purchased them, at a very large price, to bestow *exclusively* upon the subscribers of either edition of THE TRIBUNE for 1863, intending to send one of each kind to every subscriber who expresses a wish to that effect at the time of subscribing. This will be equal to a prize of $1.25 to each subscriber, as that is the price charged by nurserymen for similar plants. Indeed, neither of these Prize Strawberries can be obtained at any price whatever, as we have secured every plant that can be produced in the year 1863, exclusively, as prizes for our subscribers. We have incurred the large outlay necessary for this purpose, because we have an earnest desire to see the propagation of improved fruit greatly extended, and because we believe that every one who receives these plants and grows the fruit will hold THE TRIBUNE in kindly remembrance for enabling him to enjoy such a good gift of a kind Providence, and will thereafter have an increased desire to improve all the list of fruits. It is thus that health and happiness will be increased.

As these plants have all to be grown from the few plants we bought of Mr. Fuller in the autumn of 1862, he will not be able to send them to subscribers until after the first of September, 1863, when they will be carefully packed in oiled silk or paper, and by



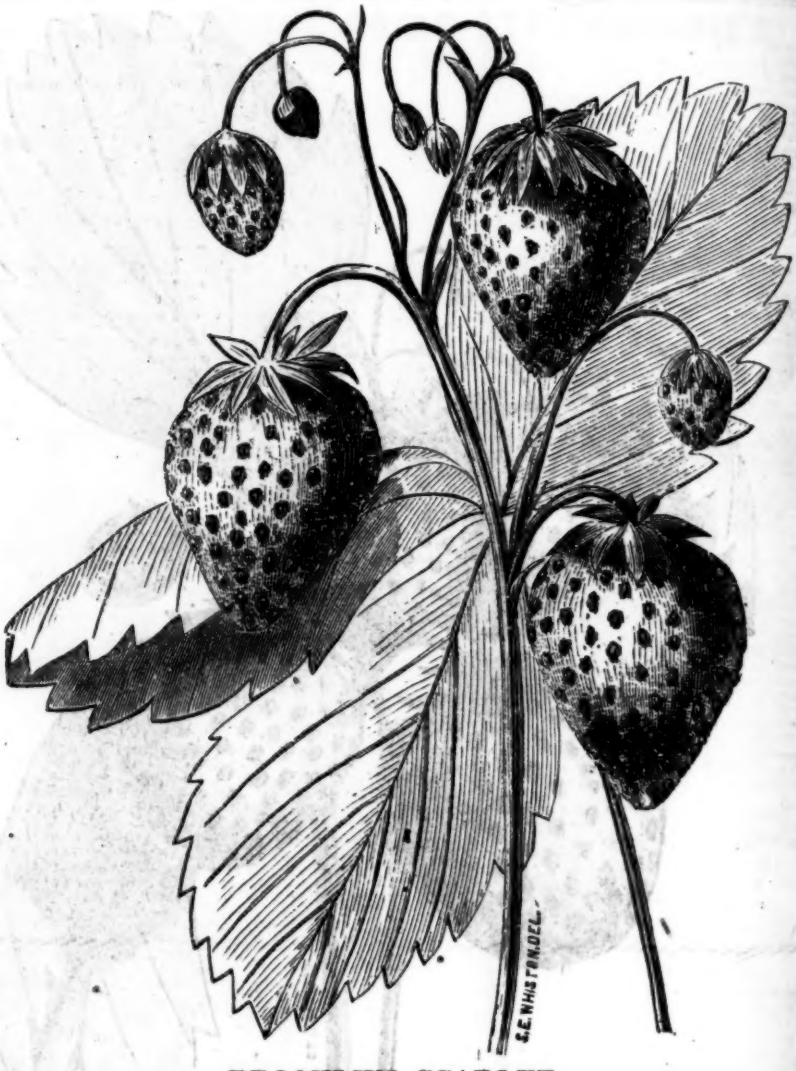
MONITOR.

warded, through the mail, at our expense, or by express at expense of the receiver. The three plants will be sent to each person who sends us a year's subscription for either the Daily, Semi-Weekly, or Weekly TRIBUNE, indicating at the time of subscribing that he desires the Strawberries, and the distribution will be made in the order the subscribers' names and requests for Strawberries are received.

Single subscribers will receive their plants by mail, done up in oiled silk, or other suitable oiled substance.

To Clubs, plants will be sent in packages, to correspond with the number of names in the Club; and where the number will warrant it, they will be sent by express, packed in boxes

New subscribers who desire Strawberry Plants should say so at the time they send their money, as we do not intend to send any to those who will not appreciate them. They are too valuable to be wasted. There are parties who would gladly contract for the



BROOKLYN SCARLET.

exclusive right to all these plants, at 25 cents apiece, and there are many subscribers who would not, as soon as they see and tas the fruit, part with their prize for a $5 "green back."

How these New Strawberries were Produced.

The following statement is made by Andrew S. Fuller, horticulturist, Brooklyn, the originator of these Strawberries. He says:

"It is now between seven and eight years since I commenced sowing seeds of the Strawberry for the purpose of producing new and improved varieties. I have always selected seeds from the largest and best that could be obtained, and the result was that I produced some few good varieties each season; yet they were not such as I was willing should go out as my seedlings. Every season I selected the seed with more care than I did the previous one, and found that I made constant improvement. I therefore determined that I would put forth extra exertions and see if a few extra choice varieties could not be produced. In 1859 I obtained the best varieties known, and by fertilizing the flowers one with another, I expected to produce Strawberries combining greater excellence than heretofore known. In this I was not disappointed. I produced that year many thousands of seedling plants, and the fruit of many was really excellent, so much so that I was urged not to throw the plants away; but as excellence, and not variety, was my object, I destroyed all but the most promising. I determined from the first that no plant should go out as a seedling of mine unless it combined greater excellence than any other Strawberry known. From the selections of that year a competent Committee

from the Farmers' Club of the American Institute, who had the matter three years in charge, made a selection of three sorts, ripening early, medium and late, and these I preserved as the final result of my seven years' laborious experiments to procure improvement in Strawberries from seeds. These I intended to dispose of in the ordinary way of a nurseryman's business, and should have done so but for the desire of THE TRIBUNE to make a gratuitous distribution of these truly excellent Strawberries to its subscribers. I have therefore contracted to furnish them exclusively for that purpose. Not one of them can be bought of me at any price. If I had kept them for sale to individuals the price would have been 50 cents each, or $5 a dozen."

NAMES AND DESCRIPTIONS OF THE PRIZE STRAWBERRIES.

"The earliest ripening one was named *Col. Ellsworth*, in honor of the martyr who lost his life when Alexandria, Va., was first occupied by the Union Army during the present war. It is a very large variety, of a crimson color, conical in shape, and having a slight depression running from calyx to point, re-embling the sutures on the peach, with a long neck, and the calyx parts readily from the berry; quality good; flesh firm. Although the largest of the three, it is also the earliest, ripening at the same time as the Jenny Lind and Early Scarlet, and is very productive. The original plant, eighteen months from the time the seeds were sown, produced over 200 perfect berries, averaging from one inch to one three-fourth inches in diameter.

"The next ripening is called the *Monitor*. It is very large, of a dark bright scarlet color, approaching a crimson in the sun. Berry very solid and firm, of fine quality; plants very vigorous and productive. This sort will become a great market fruit, the color and shape being very attractive.

"The third, from its color and origin, is called the *Brooklyn Scarlet*. Although this variety is inferior in size to the other two, yet it possesses merits that will always make it a great favorite. Its shape is a regular oblong cone, color the most beautiful bright scarlet. Flavor, the very best. We have the unanimous decision of the Judges at the great Strawberry Show last season, at No. 41 Park Row, New York, on this point, as they awarded it the first premium over all its numerous competitors. The plant is a very strong and vigorous grower, making monstrous stools the first season, from which an enormous amount of fruit stalks are produced. Add to this its lateness which assists so much in prolonging the season of this delicious fruit, and we have in this Strawberry something as near perfection as possible, though not as large as the others. Yet this is not small, and among the sorts most cultivated ranks medium to large."

The above descriptions by Mr. Fuller, in addition to all that we have already published, must be sufficient to satisfy all minds that we are offering no trifling prize to our subscribers, as an indication of our good will, and certainly with a hope of their good will to us.

We have only to add that the cuts are as exact representations as to size, as can be given, and in no respect exaggerations of The Tribune Prize Strawberries.

TERMS OF THE NEW YORK TRIBUNE.

DAILY TRIBUNE.

Mail Subscribers, one year (311 issues)..... $8 00

SEMI-WEEKLY TRIBUNE.

One Copy, one year, (104 issues).....	3 00
Two Copies, one year.....	5 00
Five Copies, one year.....	12 00
Ten Copies, one year.....	22 50

An extra copy for a club of twenty and over. The Semi-Weekly Tribune is sent to Clergymen for $2.25.

WEEKLY TRIBUNE.

One Copy, one year, (52 issues).....	$2 00
Three Copies, one year.....	5 00
Five Copies, one year.....	8 00
Ten Copies, one year.....	15 00

Any larger number, *addressed to names of subscribers*, $1.50 each. An extra copy will be sent to every club of ten.

Twenty copies, *to one address*, one year, $25, and any larger number at same price. An extra copy will be sent to clubs of twenty. Any person who sends us a club of thirty and over shall receive the Semi-Weekly Tribune gratis.

To any person who sends us a club of fifty or over, the Daily Tribune will be sent without charge.

The WEEKLY TRIBUNE is sent to Clergymen for $1.25.

At Post-offices, where full Clubs can not be formed, either for The Semi-Weekly or Weekly Tribune, subscribers to the two editions can unite at Club prices, should the total number of subscribers come within our rule.

When Drafts can be procured it is much safer than to remit Bank Bills. Write name, Post-office and State plainly. Subscribers who send money by Express must prepay the Express charges, else it will be deducted from the remittance.

THE TRIBUNE ALMANAC FOR 1863.

Price, 15 cents; 11 copies for $1; 100 copies, $9, postage paid. By Express, $8 per 100. Cash orders solicited.

We can supply back numbers of the Tribune Almanac for years 1850, 1855, 1854, 1857, 1858, 1859, 1860, 1861 and 1862. Price 15 cents each, post-paid. Address

THE TRIBUNE, TRIBUNE BUILDINGS, NEW YORK.

All Hail the Triumph that

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